H55
1874

A Legge
Sydenham.
1894.
1st ed. £ 3

HIGHER SCHOOLS AND UNIVERSITIES IN GERMANY

HIGHER SCHOOLS AND UNIVERSITIES IN GERMANY

BY

MATTHEW ARNOLD, D.C.L.

Formerly Foreign Assistant Commissioner to the Schools Enquiry Commission

London

MACMILLAN AND CO.

1874

All rights reserved

'The thing is *not*, to let the schools and universities go on in a drowsy and impotent routine; the thing is, to raise the culture of the nation ever higher and higher by their means.'

WILHELM VON HUMBOLDT.

PREFACE

TO

THE SECOND EDITION.

THE BOOK on 'Schools and Universities on the Continent,' which I published in 1868, has long been out of print; I now republish that part of it which relates to Germany. The historical interest of tracing the development of the French school-system, from the University of Paris and its colleges down to the lyceums and faculties of the present day, is extremely great; the practical value of this school-system, in affording lessons for English people's guidance at the present moment, is small. The German schools and universities, on the other hand, offer an abundance of such lessons.

During the debates in Parliament this last spring on Irish university education, a foreign critic remarked that the ignorance which foreigners are accused of displaying when they talk of England could not possibly exceed the blundering into which the English

debaters fell when they talked of universities on the Continent. And a good deal of ignorance about these there certainly, among English public men, is; while some of the lessons to be got from a right knowledge of them are, as we have said, very valuable. Now of German higher schools and universities, in particular, there exist for the use of people outside Germany scarcely any clear and trustworthy accounts; my account was found useful both in England and on the Continent, and I have ascertained that the description it gives of German public instruction still holds good. I therefore reprint it, and in reprinting it I will take the opportunity to point out, by way of preface, one or two things which at this moment in England have especial significance for us in the German way of dealing with public instruction.

Laws in Germany about public instruction come from statesmen, and so too, it may be said, do laws in England. Now, a statesman can hardly rise to power without being superior in range of experience and largeness of judgment to the mass of mankind; at least, if he can, it speaks ill for those who employ him. And, in Germany, a law about public instruction may be taken to be the best which a statesman, superior to the bulk of the community in experience and judgment, and free to use these unhampered, can devise. But we in England are, as is well known, a self-governing people. This is probably in the long

run the best possible training for a nation, but let us observe how it acts on our statesmen and on our law-making. A statesman having to make a law about public instruction is not, with us, free to make it according to the best lights of his own experience and judgment; he is hampered by the likes and dislikes of the bulk of the community, or of some large body or bodies in the community which are necessary to his support. And of the men in general who compose these the judgment and experience are, by the supposition we follow, and indeed by the very nature of things, inferior to his own. Probably at the very best it will be a give and take between him and them; he will concede something to their prejudices, and will try, along with this concession, to slip in as much of what he judges to be really right and expedient as he can. But the more he slips in of this the less he will tell the body of his supporters that their prejudices are prejudices; he will even make out, in passing, the best case for these he can, and will soothe and humour them, in order that what he does gain he may gain safely. Therefore in any matter which, like education, touches many passions and prejudices, we do not get the best our statesmen would naturally devise; and what we do get is given in a manner not to correct popular prejudices, but rather to humour them. Our statesmen, therefore, and their measures, do directly hardly anything to check and set right wide-

spread errors amongst the community. Our most popular newspapers do even less ; because, while they have all the temptations of statesmen to coax popular prejudices rather than counteract them, they have not the same chance of being, by experience and strength of judgment, raised really above them. But it is evident that the whole value of its training, to a nation which gets the training of self-government, depends upon its being told plainly of its mistakes and prejudices ; for mistakes and prejudices a large body will always have, and to follow these without let or hindrance is not the training we want, but freedom to act, with the most searching criticism of our way of acting.

Now a criticism of our way of acting, in any matter, is tacitly supplied by the practice of foreign nations, in a like matter, put side by side with our practice ; and this criticism by actual examples is more practical, more interesting, and more readily attended to than criticism by speculative arguments. And the practice of Germany supplies a searching criticism of this kind ; for we know how German practice is governed by the notion that what is to be done should be done *scientifically*, as they say ; that is, according to the reason of the thing, under the direction of experts, and without suffering ignorance and prejudice to intrude. But this criticism our politicians and newspapers,—having always, as we have seen, to consider the prejudices of

those bodies on which they lean for support,—will never apply stringently and unflinchingly. The practice of foreign nations they will always try to exhibit by a side which may make their own supporters feel proud and comfortable, rather than humiliated and uneasy; and perhaps it is to this cause, even more than to simple carelessness and ignorance, that those inaccurate assertions about foreign universities by our public men, on which foreigners comment, are attributable. Therefore we have always said that in this country the functions of a disinterested literary class—a class of non-political writers, having no organised and embodied set of supporters to please, simply setting themselves to observe and report faithfully, and looking for favour to those isolated persons only, scattered all through the community, whom such an attempt may interest—are of incalculable importance.

Such men may well be dissatisfied with the accounts and criticisms of what is in Germany done for public education which often pass current here. Germany makes laws, for instance, which affect the education of Roman Catholics and the condition of the Roman Catholic church and clergy. We, likewise, in Ireland have to deal with the Roman Catholic church and Roman Catholic education. Naturally, therefore, we must all look with interest to see what they are doing in Germany. Some of us give praise to what is being done

there, others give blame. Both praise and blame is generally made to turn to our own credit, to commend what we have done in England, and to make English people comfortable; but neither by him who praises nor by him who blames are the German proceedings ever presented just as they really stand, nor is the lesson ever drawn out from them which, for the people of this country, they really convey. What is done to Roman Catholics in Germany is based on the best consideration and judgment of statesmen, free of popular prejudice and clap-trap; what is done to Roman Catholics in Ireland is based, if we tell the real truth, on popular prejudice and clap-trap. This constitutes an immense difference. The Roman Catholics will cry out against the policy pursued by the Prussian Government towards them, but they cannot help having a respect for it, because it is based on principles of reason which an able statesman sincerely holds, can plainly avow, and has power to follow. But for the policy pursued by the English Government towards the Roman Catholic church in Ireland, no Roman Catholic can have any respect; for it does not represent the real mind of able statesmen, but the mind of a quantity of inferior people controlling the action of statesmen, whose ability goes to putting the best colour they can upon the action so controlled. And the policy of the Prussian Government may succeed. I speak with caution, because, in the first place, a

foreigner cannot well have a thorough knowledge of the circumstances; and, in the second place, what is right and reasonable does not always succeed, or the best judgment of the ablest statesman may fail to hit truly what is right and reasonable, or he may shew temper and indiscretion in details even where he is right in his main drift. However, I think that Prince Bismarck's policy will succeed, and that he may hope to see the great body of the German Catholics finally come in to it. But I am sure that the English Government's policy towards the Irish Catholics never can succeed; for it does not even follow in its main drift that Government's best notions of what is right and reasonable. As much as these may not always be enough for success; but less than these, never.

Now wherein lies the essential point of difference between the English and the German Governments, in their practical dealings with Roman Catholic education and kindred matters? That is just what from English public speakers and writers one would never learn. Exeter Hall praises Prince Bismarck because, like England at its best moments, he sternly restrains Romanism. On the other hand, the *Spectator* says that Prince Bismarck adopts towards Roman Catholics the illiberal policy of England before Catholic emancipation; the *Standard* says that what he does is as if an English Minister forced all Roman Catholics, wanting to take orders, to come

to Oxford and Cambridge to be educated. Is it really so? and if it is not so, where is the difference?

It is here:—that Prussia, before proceeding to regulate in certain points the course of Roman Catholics, *first established and endowed their religion.* Before compelling Roman Catholic candidates for orders to attend universities, *she gave them Roman Catholic universities to go to.* Has England, when it was restraining Romanism, stood towards it as Prussia stands? Before Catholic emancipation, was the Roman Catholic religion in Ireland established and endowed, or was it encompassed by prohibitions and penalties? At this moment, have the Roman Catholics of Ireland a Roman Catholic university, or are they in the condition of having vainly asked England to give them one? And when the English Government at last offered them a university without theology, philosophy, or history, was not even this offer cried out against in England as 'a plan of endowment however mitigated and disguised,' and are we not told to rejoice at the offer having failed because even so much as this will never be offered to the Catholics again?

Now the treatment to which Prince Bismarck is subjecting Roman Catholicism may be wise or unwise, just or unjust; to this we will come presently. But in all that he does, he stands on a vantage-ground which we do not occupy. One thing that Protestants

have, and that Catholics think they have a right, where they are in great numbers, to have too, this thing to the Prussian Catholics Prussia has given. What the Irish object to in Trinity College, Dublin, is, they say: 'the settlement in the metropolis of a Catholic country and for a Catholic nation of a non-Catholic college and university backed up by all the prestige of the antiquity, the wealth, and the learning of Trinity College.' For my part, I have not a word to say against Trinity College; its distinguished past and honourable present, and the large proportion of the wealth and property of Ireland which belong to Protestants, amply justify its continuance. But the Catholic bishops have reason in what they say, nevertheless. In short, they want a Catholic university for a Catholic country, just as Oxford and Cambridge are Protestant universities for a Protestant country. They may be told by Mr. Lowe that all a man ought to wish for is an Examining Board, and that faculties and professors are a great mistake; but they hold to the old notion, that a regular university is a better thing. They may be told that they ought to be satisfied with an university where theology and the matters akin to it are not taught; or where theology is not taught, and history and philosophy are taught without reference to religion, without any one asking of what religion are the persons who teach them. That is not their opinion; they prefer that their sons

should be taught theology, philosophy, and history at the university as well as other things; and that they should be taught theology, philosophy, and history by persons of their own religion. This is no extravagant claim of theirs, they say; they are only asking for what the majority of people desire elsewhere for the children, and what elsewhere is given. In England and Scotland Protestants choose to make their universities places where their children can learn theology, philosophy, and history, and can learn them from Protestants; why may not Roman Catholics do the same, where they are the bulk of the population? And in Germany they may; but in Ireland they are told by the English Government: 'Oh, no, that is impossible; we have a *principle* that for the future we must not, in Ireland, endow religion in any way whatever.' But Prince Bismarck has not this principle; he gives Roman Catholic universities to the Roman Catholics. Only he insists that Roman Catholic priests, paid by the State, shall have passed through the studies and examinations of the university, instead of remaining satisfied with the studies and examinations of their own seminaries. That is his principle; and the Roman Catholics find fault with it, as they do with ours. But evidently it is quite a different principle from ours; indeed, it can only be reached by first rejecting our principle altogether. Yet the *Times*, as is natural for a leading English

newspaper, talks as if by our principle we generously conferred on the Irish Roman Catholics a precious boon, and a great advantage over their Prussian brethren. 'We feel,' it says, 'that however inconsistent Ultramontane principles may be with the general tendency of English life, we are strong enough to leave them to be encountered by the natural influences of free discussion.' This is just the sort of colour which the mass of Englishmen like to see given to our Irish policy,—liberal and rosy. And certainly, if we do not grant to our Roman Catholics any university, we cannot force them to take degrees there. However, the party affected is not content with what we do any more than with what Prince Bismarck does; in Ireland they want an university, and in Prussia they do not want to have their clergy made to pass through university studies and examinations. So the Roman Catholics dislike both what our Government does and what Prince Bismarck does; but there the likeness between the German and the English policy ends. The two go upon wholly different principles; and if one policy is right the other hardly can be, if the one is likely to succeed the other must be likely to fail. Which is right, which is likely to succeed, will depend on the comparative truth and worth of the principles at the bottom of each.

Prince Bismarck's principle is, that a man who exercises an important public function in dealing with

men's minds, should exercise it with the light, help, and discipline of the best culture which the nation has to give. This culture is given by the national universities. The man may, it is true, go through it without being benefited by it; but it is likely he will be benefited by it, and so much benefited as to make it worth while to insist on his going through it. This is really what Prince Bismarck's principle, stated simply, comes to; he holds it, we may well believe, quite honestly and sincerely, for it seems reasonable in itself, and what reasonable Roman Catholics might themselves be brought to admit. How far, in this or that detail, he may have applied it injudiciously, how far his adversaries' resistance may have provoked him to show temper and self-will, and to go beyond what was reasonable, a foreigner cannot well judge, and I do not mean here to inquire. People for the most part so respectable as are the Catholic hierarchy in Germany, people who can plead such a long prescription for their independence of the State, who so sincerely think this independence their right, should, one would think, when innovations are made and they resist them, be treated with the greatest possible indulgence and long-suffering. As to attempts to cut the tie between the Catholic priest and Rome, and to substitute for it State-appointment or popular election, this may be very desirable in itself; and, if the Catholic community wishes it, well and good. But so long as the

Catholic community sees in its priest a functionary to whose religious ministrations his tie with Rome gives their whole virtue, to forbid this tie is to forbid the Catholic community the exercise of its religion. If Prince Bismarck suffers his new legislation to run into excesses of this kind, they may easily be fatal to it. Anything, too, like a direct prohibition of the ecclesiastical schools, or a direct regulation of studies and control of books in them, seems to me a harsh and ill-advised measure. To interpose, somewhere between the private seminary and the public cure of souls, the studies and examinations of the university, seems to me all that is really required; and to require thus much is reasonable. It is true, the Roman Catholics have the right to certain guarantees in the matter. They have a right to demand that the university shall not be made an engine of Protestant or of anti-religious propagandism, that the seminarist shall not be put in the hands of the enemies of his faith, that his university, therefore, shall be a Roman Catholic university, and his professors for theology, philosophy, and history, Roman Catholics. This being guaranteed, I think the State may reasonably impose university studies as a preliminary to orders, and that it may fairly hope to obtain, with time, the approbation of its Roman Catholic members themselves to its doing so. The reasonable ones will

be brought to approve first, but the mass will come in time.

It is true, also, the Roman Catholic hierarchy will claim to have more guarantees than those mentioned, and will make an outcry at first if it does not get them. A body of this kind will always try to make the best terms for itself it can. The Irish bishops claimed from Lord Mayo the government of their Irish university, the right of veto on the appointment of professors, the right of dismissing professors. This would make the university simply a continuation of the seminary with a State payment. But what is the object of an university? To diffuse the best culture by means of the best professors. And it is granted, that since with so many and great parts of culture religion is concerned, Roman Catholics may fairly wish to have, in an university where they send their sons, Roman Catholic professors; the question is, who is likely to choose them best, the State or the bishops. A minister of State will choose them with a wider view, and with a more public, a fuller, and a more concentrated responsibility,[1] than the bishops can; therefore the State is

[1] It cannot be too often repeated that this is the real unanswerable argument for State intervention; the whole community is supposed to govern, and in a minister of State the whole community gets, better than anywhere else, *a centre in which to fix responsibility*. Experience, by palpably showing the defectiveness of such substitutes as, for instance, the new govern-

likely to choose them best. This is so agreeable to reason that one certainly need not despair of bringing the Roman Catholic laity to admit it; indeed, even at this moment, given a Roman Catholic university either in Prussia or in Ireland, and suppose you polled the Roman Catholic fathers of families, whose sons are to use it, to say whether the State or the bishops should appoint the professors, I doubt if a majority would not say the State. It is an excellent principle in government to believe that to what is reasonable one may always hope to make the majority of men at last come in. And reasonable it seems that the national clergy should be required to have gone through university studies under the control of university professors; professors of their own faith, chosen, however, not by any close corporation, but by the whole nation in its collective and corporate character, by the State acting through a responsible minister. This is what the policy of Prince Bismarck, in that part of it which we are at present considering, aims, I believe, at bringing about; and therefore I say it is a reasonable policy he follows, and he may look for success in it in due course, although he may be called a demon-minister on the way.

But now we come to the principle of the English Government in regard to university education in Ireland.

ing bodies of our public schools, will bring us finally to the simple truth, to which so many of us wish to shut our eyes.

This principle is, as we have seen, that for the future we must not, in Ireland, endow religion in any way whatever. Now it is remarkable that in the soundness of this their principle many of the chief members of the English Government appear, if we may judge by their own admissions, not to believe ; whereas in the soundness of *his* Prince Bismarck appears to believe heartily. However, a principle may no doubt be sound, even though its upholders do not themselves believe in it ; the question is, does the principle of the English Government, when we examine it, turn out to be sound in itself ? Because if it is not, it can never be likely to succeed, much as it may be written up and called a great and necessary principle. So much written up, indeed, it is, and asserted so confidently, that it has come to be treated by a great many people as almost a truism, as something which in its general form, that the State ought to have nothing to do with religion, one must begin by admitting as a matter of course, though circumstances may here and there prevent our as yet shaping our action in conformity to it. A truism, as is well known, is something true and trite. Now, the principle in question is not exactly a truism, but it is next door to it ; it is what Archbishop Whately used to call a *falsism.* A truism is something true and trite, and a falsism is something trite and false ; and that is just what the maxim we are now dealing with is : something trite but false, a

falsism. We will endeavour to make this clear by analysing the maxim in the grounds on which its maintainers base it.

For manifestly it is not a principle which carries its own proof on the face of it, like the self-evident truths in mathematics ; it is collected from other propositions. In the same way, Prince Bismarck's principle that the Roman Catholic clergy should pass through university studies is not a self-evident truth in itself : it depends on the truth of a proposition behind it, that a nation's public ministers in mental and spiritual things should have passed through the best culture of the nation. So also the principle that the State should have nothing to do with religion depends on further propositions advanced respectively by those two powers in this country which we have elsewhere called Millism and Miallism. These nicknames give offence, and we will not employ them here ; one of them, besides, might turn out to be not strictly accurate. For Mr. Mill, who was not, perhaps, the great spirit that some of his admirers suppose, but who was a singularly acute, ardent, and interesting man, was capable of following lights that led him away from the regular doctrine of philosophical radicalism, and on no question was he more capable of doing this than in one where the Catholics of Ireland were concerned. We will say then, instead of Millism and Miallism, Secularist Radicalism and Nonconformity. Both call them-

selves Liberal, both unite in the proposition that the State should have nothing to do with religion; but they take different grounds. We hear most in this country of the ground taken by Nonconformity; but out of England, on the Continent, hardly anyone takes this ground. Secularist Radicalism, on the other hand, is a great power on the Continent as well as with us; and its reason for severing all connection of the State with religion you hear perpetually.

This reason is, that religion, as it exists, is merely another name for obscurantism and superstition; that it keeps out light and prevents improvement of every kind; that the State, therefore, ought on no account to recognise it, to give it a public character and allow it to hold public property, all of them advantages which tend to make it honourable in the eyes of men, and to render it more stable and lasting. It is a sort of malady, think the Continental Liberals, which was bred in times of suffering, darkness, and ignorance, but with which a number of purifying influences are now at war; let the State stand aside and give it no artificial aid, and it will gradually die out like the black death or the sweating sickness. This is what Liberalism, thoroughgoing Liberalism, which knows its own mind and is therefore a serious power, really means by saying that the State has nothing at all to do with religion: and it is in this sense that it adopts the cry: A free Church in a free State! Liberalism of this sort ob-

jects strongly to the State's interference in Switzerland or Germany between the Old Catholics and the ecclesiastical authority ; in Italy it is for sweeping religion out of the schools and theology out of the universities, and leaving the Church to deal with these by herself and just as she likes. The nonsense cannot go all at once, they say, but in time it will go ; and it will go the sooner the less you encourage it by taking any public notice of it whatever.

Now these enlightened people fall into error, because there is really more in religion than they imagine. True, all sorts of ignorance and superstition have fastened themselves on to religion ; true, all sorts of inconvenience and damage have come from religion as we see it existing. But this is because religion,—the rule and sanctions of conduct,—interests all the world, and has thus become the mixed and strange-shapen thing which the practice and opinions of great multitudes of men were likely to fashion. Particularly has this been so with that form of Christianity which has most penetrated the societies where it lived, most laid hold on the multitude and been reacted on by the multitude,—Roman Catholicism. But religion is not on that account like the black death or the sweating sickness, a mere disease out of which, if we do nothing to foster it and will let the influences of modern civilisation work, we may hope mankind will grow ; it is a natural human need which will manage to satisfy itself.

To this matter we shall return presently; we will now only point out that the nations of Europe have all provided themselves with an organisation of religion just as they have provided themselves with an organisation of society; the one was made a public affair for the same reason as the other, because both were felt to interest the public profoundly, as human needs of primary importance. And when it is said that this or that thing has not been made a matter of public organisation, and why should religion be, we shall always find, if we look close enough, that this was because the thing in question did not interest the public profoundly, was not held (whatever its real merits may have been) to be a thing worth instituting publicly, a public need of primary importance; whereas religion was. Religion has been publicly instituted because it is a recognised public need; it has not been made a public need by being publicly instituted. Naturally the publicly instituted religion in Ireland would be that of the immense majority of the people, the Roman Catholic religion. But this has not been allowed to institute itself publicly, because it was not the religion of the minority who conquered Ireland; Irish Catholicism, therefore, has been entirely dissociated from the public life of the country, and been left to be an entirely private concern of the persons attached to it. Well, but what has been the consequence? Has it died out because of this wholesome neglect by the State? Among no people is

their religion so vigorous and pervasive. Has it fewer faults and disadvantages than the same religion in countries where the nation institutes it? In no country, probably, is Roman Catholicism so crude, blind, and unreasoning as in Ireland. It seems, then, that by dissociating religion from the public life of a country, you do not get rid of it, and you do not abate what is faulty and mischievous in it; you only make this stronger than ever. And so far, perhaps, philosophic Liberalism hits the truth in its comparison of religion to a disease; what there is hurtful and virulent in religion, as men have corrupted religion, becomes worse when it is driven in and when the light and air are shut off from it. Roman Catholicism does not disappear in Ireland, where it has no public organisation, any more than in Germany, where it has; but it is a thousand times more superstitious and unprogressive. So that the maxim of Secularism, that the State must have nothing to do with religion, a maxim which is grounded on the notion that the inconveniences of religion will disappear quicker if the State treats it as if it did not exist, turns out to be, as we say, a *falsism*; that is, it is false because the notion on which it is grounded is false, at the same time that it is trite because so many Liberals are constantly saying it.

But it is from the Noncomformists that we hear loudest, in England, the maxim that the State must have nothing to do with religion; indeed, so loud do

they say it, that they frighten many of us into assenting to it, whether we believe in it or no. With the Nonconformists, also, the maxim depends for its truth upon the truth of another maxim behind it. This maxim is not by any means that of Secularist Radicalism, that religion with all its inconveniences will die out if not artificially sustained. The Nonconformists think religion a thing most precious and imperishable. Their notion, however, is that religion will thrive best if the State lets it alone, and if it is not publicly instituted. At least, this is the notion which at the present moment they wish to proclaim as their principle, and to stand or fall by.

Now, this principle is a puzzling matter to deal with, because its truth or falsehood cannot be seen on the face of it, but depends upon an immense experience which we have not had. On the one hand is the fact that men, so far as we see, when they were left to themselves and acted naturally, have almost always made religion a public institution. True, the world is far from being perfect. But if religion, or, to limit ourselves to what our experience can better deal with, if Christianity, ever since its first appearance, had been left to itself as a concern for individuals and private congregations only, would the world, men being what they are, have been any better? It is really impossible to say. The modern Dissenters tell us it would, but what experience have

they to go upon? They have this: that at the Reformation, many of the English middle class, discontented with the shape which the public institution of religion then took amongst us, renounced it for themselves, and made their religion a thing of private congregations and individuals. Then these same people, with their habits of separatism established, crossed the sea, and founded English America with the same 'dissidence of dissent' pervading its religion as pervaded the religion of its founders. For as soon as they had given in to separatism they found it was a thing that grew upon them, and they began to differ and separate from one another as much as from the religion publicly instituted in England. Now, then, has religion thriven more with the English Dissenters, and in America, than it has thriven under the common conditions? Of course the Dissenters say it has, and they are fond of pointing to the number of chapels and churches they build, and to the number of chapels and churches built in America, and to the salaries paid to ministers, to prove that religion thrives best on their plan. But the real question is, which produces, not the most churches and the best salaries, but *the best type of religion*, the public institution of it or the leaving it to private handling? Here, too, the Dissenters will confidently answer that they and their plan produce the best type of religion. We differ from them; we are strongly of opinion that neither in Great Britain nor in America

have the separatist churches produced so good and lovely a type of religion as that which is suggested by the name of Fénelon, for instance, in the Roman Catholic Church, or by the names of Ken or Wilson in our own. There is another thing. A swarm of private religious sects wastes power; it absorbs for its machinery, squabbles, and gossip, force of brain which might be better employed, and is not good, therefore, for mental progress. Not much of English thought comes from the Dissenters. America, occupied in the material installation of society over a vast continent, gets most of her thinking done for her in Europe; but if she had to depend on herself for it, she would find, I suspect, her religious organisation unfavourable to her growth in thought and knowledge. But we do not offer all this as a certainty so evident that everyone must admit it, nor do we allege that it settles the question between private and national churches absolutely. Appearances are, we think, against the private churches, but data for deciding positively against them are wanting. But even more, or at any rate, surely, just as much, are they wanting for deciding in their favour. So in a matter where there is no self-evident certainty, and no certain proof from experience, but where general practice has gone one way, and the majority prefer it, surely it is a case for compliance, for letting them institute religion publicly if they like, for *pleasing one's neighbour*, as St.

Paul says, *for becoming to the weak as weak, that we may gain the weak.* To deny him and scuffle with him for such a thing is to be contentious, and to incur the same apostle's sentence: *If any think good to be contentious, we have no such habit, nor the churches of God.* For this is the Nonconformist's endeavour: to take away or deny what the majority like, on the plea that religion will thrive best if the State has nothing to do with it. In England they have not yet succeeded, but in Ireland they succeed; there they prevent all public institution of Catholicism, any formation of a public Catholic university, though the vast majority of the Irish would like it. And they prevent it on a ground which has and can have no positive certainty, and carries for mankind at large no conviction.

We may safely say that if this alleged ground of the modern Dissenters was their only and their real ground in refusing, for instance, the Catholic university wished for in Ireland, they would be powerless. The absurdity and injustice of refusing on a ground so inconclusive such a wish of the majority of Irishmen would be too glaring. But it is not the real ground. Most certainly it is not the real ground with the rank and file of the Nonconformists; and we take the liberty of doubting, we who make it our business to try and see things as they really are, whether it is the actual motive even with the leaders, although no doubt they have now persuaded themselves that it is so. Their natural

and first thought was that to which Pym gave utterance when he said that it was the business of legislators to establish true religion and to punish false. The Church of England's was not the true religion, therefore the Nonconformists repelled it. But the bulk of them long hoped to establish the true religion, that is, their own, in its stead. This was hopeless, because of the many and ever-multiplying differences amongst themselves. The Nonconformist minorities had to put forward the plea of religious equality, to free themselves from risk of persecution by the Nonconformist majority. The Independents' denial of the right of the civil magistrate to interfere in matters of religion was to bar the claim of the Presbyterian ministers to invoke the civil magistrate's arm to punish what they thought heresy. But John Goodwin, the greatest name among the Independents and an interesting and remarkable man, expressly says that he does not quarrel with the setting up of Presbyterianism by the Government, but with the directing of the Government, in the punishment of heresy, by the Presbyterian ministers. The contention was for *toleration*; that religious bodies had no authority, as the Savoy Confession says, 'to impose their opinions upon one another.' The same was the contention of the Baptists.

But all this was rested on the ground that in matters of conscience Christ is king, and the magistrate ought not to meddle; and this ground, taken originally with

an eye to toleration, easily suggested to the Nonconformist minorities a new departure. It was, that there should be no public institution of religion at all; and thus that, though any separatist's own religion might not be first, yet nobody's should. This would rescue them from a mortifying position of inferiority, while it would at the same time inflict a mortifying loss of rank upon their rivals. Nonconformists have since come to see all manner of fine aspects in the idea of religious equality, and they love to think that they have embraced it for these; but the real reasons why they embraced it are those we have given. They adopted it first to get toleration; they insist on it now to bring their publicly instituted neighbours to their own level.

However, to this day, what imparts real strength to the opposition of the rank and file of them to the Church of England, what procures them whatever real sympathy they get from the public outside, is the belief, not in the virtue and excellency of the idea of religious equality, but the belief that the Church of England teaches *false religion*. Still more does the strength of the opposition to all endowment of Roman Catholicism come from the belief that the Church of Rome teaches *false religion*. The Nonconformist leaders know where their strength lies, and freely use invectives against Ritualism or Popery to move the common public; it is for select audiences that the philoso-

phical beauty of the idea of religious equality is exhibited. Mr. Miall has mused on this beauty till he has got sincerely enamoured of it and can exhibit it to the best advantage ; still, one need not go beyond his own newspaper to see that it is not this beauty which inflames his supporters, but the ugliness of what they consider false religions. A supporter writes to Mr. Miall's newspaper to inveigh against permitting the fees of pauper children in Roman Catholic schools to be paid out of public rates. What reason does he give? 'The consciences of three-fifths of the populations of the United Kingdom rise up and cry: You, the State, are being generous with our money. By force of the tax-gatherer you are compelling us to teach as truth that which *we before God assert without the slightest misgiving to be dismal error.* You make us parties to *a lie.* If the conscience of the pauper parent be violated by the omission of his peculiar religious tenets in the teaching of his child, how do you appraise the injury inflicted on ours by forcing us to pay money in support of *heathenish superstitions?*' This, this is the notion really behind the Nonconformist maxim that the State must have nothing to do with religion, the notion which gives to this abstract maxim nearly all the power it has. The State paying for Ritualism in England is bad enough, but the State paying for Roman Catholicism in Ireland is making Protestant England and Scotland parties to *a lie*, to

heathenish superstitions. The majority in England and Scotland like for themselves a public institution of religion: but for Ireland, because the religion of the majority there is a lie and heathenish superstition, we adopt the Nonconformist maxim that the State must have nothing to do with religion.

Now we do not speak to the representatives of the dissidence of dissent, and the Protestantism of the Protestant religion. Their divisions cannot all of them be instituted publicly; while, at the same time any other form of religion which does get instituted publicly, appears thereby to acquire an advantage which they have not. Therefore, to reinforce their objection on the score of its falsehood and superstitiousness to publicly instituting Roman Catholicism, the Nonconformists have the further objection that this would be giving to the Roman Catholics an advantage which they themselves cannot have. The two objections together make them proof against conviction. But we appeal to the majority in England, who have given to their own religion its public institution, which they still maintain. They are the majority,[1] or it would not be maintained.

[1] It is to be hoped we shall now be permitted to ascertain to what extent they are the majority. I believe they are the overwhelming majority. At any rate, it was not creditable to the late House of Commons, and it leaves a serious gap in the religious statistics of Europe, that the Nonconformists should have been able at the last census to prevent the fact being ascertained.

Well, what is it which made them, and which makes men in general, wish to give to their religion this public institution? Is it not the desire to give more weight, solemnity and grandeur to religion, to make it less like a thing of private fancy or invention? The Roman Catholics, where they are the majority, have just the same desire; why are they not to follow it? Because the Roman Catholic religion is so false and dangerous! that is really the English answer. Now, quixotic as the attempt may seem, I am sure we ought boldly to confront this answer, and to show its hollowness. The time has come for doing it, and the attempt is not, perhaps, so quixotic as it looks.

We shall not be thought to deny that Roman Catholicism contains much that is false and hurtful, and that Protestantism has many points of advantage over it. But Protestantism has not so much advantage over it as to be entitled to present itself as absolutely true, and to brand Roman Catholicism as absolutely false; its doing so must appear to every wise man, even, as an extravagant pretension, and to every Roman Catholic as insolence and outrage. It is no answer to say that Catholicism sets up the same sort of pretension against Protestantism. For the question is not, how is a Catholic country to govern a Protestant appendage, but how is a Protestant country to govern a Catholic appendage. If England were an appendage of Ireland, and Ireland legislated for

England on the ground that Protestantism is false and dangerous, then the Catholics would be in the same false position that we are in now. But the case is not so; the present case is, that we treat Irish Catholicism as something false and dangerous which we must not institute publicly. Therefore it is to our own people and to English Protestantism that we must say, and must use every effort to make the idea intelligible and convincing: All forms of religion are but *approximations* to the truth. Your own is but an approximation; Catholicism, whatever it may pretend, is but an approximation. It is true, one approximation may be better than another. But all great forms of Christianity are aimed at the truth, and it is by this their good side that they exhibit themselves to the view of their adherents and engage their affections. We shall always appear insolent and unjust in the sight of a religion's adherents, so long as we look at it from the negative side only, and not on that attractive side by which they see it themselves. Yet Catholicism we are always looking at from the negative side.

Nevertheless of no religion, one may say, is the favourable side so easy to find or so proper to inspire indulgence. The Roman Catholic religion is the religion which has most reached the people. The bulk of its superstitions come from its having really plunged so far down into the multitude, and spread so wide among them. The two great ideas of religion are the idea of

conduct and the idea of happiness ; and no religion has equalled Catholicism in giving on a great scale publicity to the first and reality to the second. The Pope tells a French deputation that the virtuous woman is the salt of society and the depraved woman its bane ; he tells an American deputation that industry and energy are fine things, but that the care for riches narrows and hardens the heart ; and the sentences are telegraphed round Europe like a king's speech, read with reverence in every Catholic family as the words of the head of Catholicism, forced upon the eye of careless thousands who never think a moral thought by the very newspapers which never utter one. Who, again, has seen the poor in other churches as they are seen in Catholic churches, or common soldiers in churches as they are seen in the churches of Rome ? And why ? Because the attaching doctrine of the equal share of Christians in the beauty and glory of religion, which all churches preach, the Church of Rome makes palpable ; and the poor find in church, and free to them as to the rich, the 'gilded saloons' which with us they hear of but can never enter. It is so vast, too, this old popular religion of Christendom, that in the repertory of its history you may find almost anything ; a good for every bad, the condemnation of every folly and crime which it has itself committed. It has the Inquisition on the one hand, and on the other it has Gregory the Great saying : 'The Church, formed in the school of

humility, does not command its erring children by authority but persuades them by reason.' It has one Pope proclaiming his infallibility ; it has another Pope crying : 'Why should you wonder at our being mistaken, we who are men ? Prophets have been misled ; is it strange that we should be misled who are no prophets ? The multiplicity of our business overwhelms us ; and our minds, having to attend to so many things, can attend the less to each single thing, and are the easier in some one thing deceived.' We upbraid it, with much show of justice, as making the word of God of none effect by its tradition ; yet all the while it is saying in a popular manual : 'True conversions are very rare, because nothing under a total and thorough change will suffice. Neither tears, nor good desires, nor intentions, nor the relinquishment of some sins, nor the performance of some good works will avail anything, but *a new creature.*'[1] Such is the range of this religion. We know only the tyranny and folly, and therefore we call the religion *a lie ;* but the Catholic's attachment to his religion is bred of all the mildness and wisdom which are there also, though we do not see them, and a successful management of him can never be dictated by Protestant antipathy which will know nothing of them.

The Catholic sees, too, what the Protestants who

[1] See Alban Butler's *Lives of the Saints* ; SS. Philemon and Appia, November 22.

call his religion *a lie* do not, that an enemy reproaching Protestantism can say much the same things against it which Protestants say against Catholicism; and for people who thus live themselves in a glass house to be throwing stones at him cannot but appear to him both very unjust and very ridiculous. Mr. Fitzjames Stephen, whose strong understanding seems clouded by his dislike when he speaks of Catholicism, as Mr. John Morley's is when he speaks of the Church of England,[1] said the other day, upbraiding Catholics with their enmity to modern science: 'You cannot serve God and Mammon, neither can you believe in your heart and with any intelligence in modern science and in the Roman Catholic creed. Does anyone suggest that the doctrine of transubstantiation, for instance, rests on anything like as good grounds as the doctrine that the earth moves round the sun?' Alas! does he not see that just the same thing may be said of the Protestant doctrine, so familiar to his own youth, of justification, of *pleading the blood of the covenant;* and that a Catholic must keenly feel the injustice of having it said of transubstantiation exclusively? Science professes to assert nothing which it cannot

[1] But Ireland is not England, and Mr. Morley, alone, so far as I can remember, of English Liberals, has boldly contended that Ireland has a right to a Catholic university, if she desires it. Mr. Fitzjames Stephen, on the other hand, so hard upon the Catholics, is in general fair as between the Church of England and Dissent.

positively verify. 'Does anyone suggest that the doctrine of the atonement rests on anything like as good grounds as the doctrine that the earth moves round the sun?' The same persons, the Catholic might retort, would say this both of the atonement and of our doctrine of transubstantiation, and with just the same degree of reason in both cases. Science, he might add, has plenty to say against Protestant as well as Catholic. Even Puritan ministers have maintained that the laying on of hands gave them power to cast out devils. Protestant ministers cried out against Galileo's assertion of the earth's movement just as loudly as Catholic priests; indeed, it was observed that here, for the first time, ministers and priests agreed, and Descartes wrote that there was a good time coming for the theory of the earth's motion, as the priests would probably begin to allow it now that all the ministers condemned it. But Protestants in general, it is urged, are favourable to modern science. And so too, to a Catholic, it seems that Catholics in general are favourable to modern science; because he looks at Catholicism by the good side, and treats untoward incidents as the exception, not the rule. But we treat them as the rule for his religion, never for our own. Now, how such a proceeding must strike *him*, is what we ought to ask ourselves.

No, Protestantism and Catholicism are alike mere approximations, but tolerable approximations they both

of them are, and all public institution of its religion cannot fairly or rationally be refused by Protestants to a Catholic country on the sort of plea one might use against the worship of Juggernaut, that Catholicism is a *lie* and *heathenish superstition.* It is true, however, that Catholicism does seem to us, as we have already said, to have certain points of grave disadvantage if we compare it with Protestantism. These, however, are of a kind to be lessened rather than aggravated by a public institution of religion. The gravest disadvantage is undoubtedly the dependence on Rome; the establishment, through this dependence, of a foreign power in the country. It was this which chiefly made the English Reformation; and almost everywhere, as the individuality of the European nations ripened, and unity in one's nation became a dominant habit and idea, collisions were found to arise between this unity and that old unity in Rome which belonged naturally to a time when all the nations were englobed in the Roman Empire. Such collisions between allegiance to the nation and allegiance to Rome are to the English spirit intolerable; Great Britain got rid of them by the Reformation, and that Ireland should still offer a field for them is to English people an irritating and alarming thought. And the double allegiance is undoubtedly a source of danger and difficulty. But here, too, we shall deal best with our cause of difficulty if we regard it, not as

a monstrous and perverse aberration, but as the thing presents itself to the Irish Catholics themselves, and as in its nature it really is. To the Irish Catholics, to Catholics everywhere, the attractiveness of union with Rome is not in the dependence on a government of foreigners, which is naturally attractive to no man, but in the greater solidity, settledness, and unity which religion by means of this common centre seems to them to acquire. If there is a thing specially alien to religion, it is divisions; if there is a thing specially native to religion, it is peace and union. 'The unity of the spirit,' 'the unity of the faith;' 'be of one mind,' 'live in peace;' 'let us walk by the same rule, let us mind the same thing;' these evangelical injunctions, the eternal rule of Christianity, give to Ultramontanism its power. In the prologue to the Savoy Confession, the very Independents lamented that their churches were 'like so many ships launched singly, and sailing apart and alone in the vast ocean of these tumultuous times;' it is the sense how alien is this isolation and separation to the nature of Christianity which makes Catholics imagine even a church coextensive with a man's nation too narrow, and seek a common centre in Rome. 'If we consider the Church as unity,' said Pascal, no friend to papal usurpation, 'the Pope is its head; *the multitude which is not reduced to unity is confusion.*' That, I say, is the Catholic sentiment, natural and attractive, lying

hid beneath that creation of 'a State within a State' which is often found in practice so baneful. Practically, no doubt, no body of clergy can be reckoned upon, wise enough and temperate enough to fill, without being intoxicated by it, the mighty part which, in the Catholic scheme, is reserved for Rome; practically, a church as wide as his nation, suited to his nation, nationally governed, is what a man should seek, and he does ill to run after the shadow of more and lose the substance of this. But the national sense is strong in every nation, and may be trusted to assert itself as time goes on. What hinders it from asserting itself in Irish Catholicism? What keeps Irish Catholicism Ultramontane? Our policy and our policy only. We will not let Irish Catholicism be instituted publicly; we will not suffer it to be national, to have the sense of being the Church of Ireland, and independent; we keep it a private thing, and its only way of being great and public is by being Ultramontane. We will not allow a Catholic university with a charter from the Crown, so Ireland will have a Catholic university with a charter from the Pope. What admirable, what successful management! Granted that Catholicism has really, as compared with Protestantism, grave elements of inconvenience and danger; the worst of these dangers, the Ultramontane tendency, we do not abate by our 'principle'

of not endowing in any shape religion in Ireland; we aggravate and exasperate it a thousand-fold.

Ultramontanism is a *political* disadvantage connected with Catholicism. But we will go further and say that Catholicism has, as compared with Protestantism, an intellectual and spiritual disadvantage likewise. We must always remember what Catholicism has been,—the great popular religion of Christendom, with all the accretions and superstitions inseparable from such a character. Long before the Reformation serious and intelligent Catholics could, for their single selves, separate these accretions from their religion. They could see, for instance, that the papal system, or that the worship of the Virgin and of saints, had taken dimensions quite out of proportion with what is said or indicated of them in the New Testament, and could go back nearer to the foundations of the whole matter. Serious and intelligent Catholics can do for their single selves the same thing still; with them, the essentials of religion are much what they are with a pious Protestant; they can hold this or that accretion very cheap, and talk of it very lightly. But at the Reformation the mass of the community, in Protestant countries, adopted, in breaking with Rome, this rejection of what was evidently accretion and superstition, and got a freedom and a new point of departure, in subjects of thought the most widely and

deeply interesting that are known, which, in Catholic countries, was reserved for the superior few alone. Protestantism had dangers and drawbacks of its own, and its criticism of the Bible was not *the truth* any more than Catholicism's. But by the mere getting rid of an immense baggage of erroneous ideas,—the most evidently unsound part of Catholicism, and felt to be so by the best Catholics themselves, yet the part the most naturally attractive to the multitude,—the breach with Rome did certainly accomplish, for the nations which became Protestant, a popular education of very considerable value. And this education Catholic countries must also with time go through, though certainly they need not and will not adopt the forms of Protestantism as we now see it. But the very resolve, natural and praiseworthy as it is, to remain Catholics still, to avoid the sectarian dissensions of Protestants, to keep the unity of the spirit and the unity of the faith, creates for Catholic communities a great intellectual difficulty. Much that has to be got rid of, and that Protestants, by breaking unity, make a clean sweep of, they cannot get rid of so easily. We see for instance how the old Catholics, as they are called, rejecting the extravagant papal pretensions admitted by other Catholics, are all the more anxious on that account, are almost nervously anxious, to profess that all the system of Catholic dogma they still embrace, that in this they

wish for no change. Yet in this, too, there must and will be great change, whether they wish it or not; the continuance of religion depends upon it, and continue religion will. Protestants, who see the necessity of this change and have themselves advanced some way in it, must surely desire to facilitate it for Catholics. And the change is in the air, all the influences of the time help it; wherever the pressure of the time and of collective human life can make themselves felt, and therefore in all public and national institutions for education, Catholic as well as Protestant, the change works. The one way to prevent or adjourn its working, is to keep education what is called a hole-and-corner affair, cut off from the public life of the nation and the main current of its thoughts, in the hands of a clique who have been thus narrowly educated themselves. And this is precisely what we are doing in Ireland by refusing to institute Catholic education publicly. We keep it a hole-and-corner thing, with its teachers picked by the Catholic bishops, and neither of public appointment nor designated by public opinion as eminent men; we prevent all access of the enlarging influences of the time to either teachers or taught.

In short, Roman Catholicism is not *a lie*; it is, like Protestantism itself, an essay in religion, an approximation. But it has two special disadvantages in its load of popular error, and in its Ultramon-

tanism; and our policy is precisely calculated to maintain and increase both.

Influences of the time! national influences! but these are just what the Roman Catholic hierarchy are afraid of! In Ireland you would have to negotiate with the Roman Catholic hierarchy the settlement of Roman Catholic education; and they would reject your overtures, and entertain no plan except such as puts education entirely in their hands. This is often said; I disbelieve it altogether. At present, indeed, the Roman Catholic hierarchy know very well that the Government cannot seriously negotiate with them, because it is controlled by popular prejudice and unreason; therefore any parleyings are a mere game of brag, in which there is nothing sincere on either side, and in which the Catholic bishops may freely advance pretensions the most exorbitant, because they know that nothing reasonable can be done. But clear the unreason away; let it be evident that the Government can and will treat with the Irish Catholics for the only public institution of their religion asked for, the institution of a Catholic university, such as they have a right to, and such as in the Catholic parts of Germany Catholics possess. If the Irish bishops proved impracticable then, at any rate we should have offered what is reasonable, and our conscience would be clear. But would the Irish bishops then be found impracticable, or would Ireland allow

them to be so, even if they were so inclined? Certainly a wise and firm negotiator would be needed to deal with them; but that fair terms might be come to if the Government were really free, I have no doubt. And why? Because behind the bishops there is *the people* concerned in this matter, the Irish nation. A wise Government will always regard the nation, and rely on its reasonableness, if its genuine wants and wishes are fairly met, for controlling the unreasonableness or ambition of individuals or corporations. The Roman Catholic priesthood in Ireland is a corporation of which I shall speak with no disrespect, but it is naturally interested in securing its own paramount authority if it can. The Irish nation has no such interest. It is itself a corporation wider than the Roman Catholic priesthood, and including them. It desires such an university as England and Scotland have. So long as we refuse Ireland this because its religion is *a lie* and *heathenish superstition*, the Roman Catholic priesthood have free play, they may talk as extravagantly of their claims as they like; we have been so utterly unreasonable that we can call forth no reason in the Irish people to control them. But give Ireland the university to which it has a right, and say at the same time: Experience proves that the appointment and dismissal of professors is best in the hands of no corporation less large and public than the nation itself; your professors shall be nominated and

removed,[1] not by the bishops, but by a responsible Minister of State acting for the Irish nation itself; and see if Ireland would give you no support, even if the bishops were contrary.

This is not Cæsarism, as Archbishop Manning might probably call it; it is something the very opposite of Cæsarism. Cæsarism is imposing an individual's wishes upon a nation; this is trying to observe a nation's real wants and to follow them. There have been instances of Liberalism, as it calls itself, seeking to impose by enactment its own enlightenment, as it calls it, upon an unwilling and unprepared people; that, too, is a sort of Cæsarism, and vain, unspeakably vain are such efforts. Very different is the course which we are suggesting for the English Government in Ireland. This course has for its object not to constrain the people, but to give the people free play. It proceeds on the notion that religion is a matter universally interesting, which follows, like human society itself, a law of progress and growth, and that this law manifests itself in the whole community rather than in any religious hierarchy. The hierarchy may be necessary, may be venerable, may possess great virtues; but it inevitably prizes too high what favours

[1] In the first instance. But the body of professors once formed, and constituting the Academical Senate, might present names to the minister for vacant professorships. With the minister, however, the ultimate responsibility of appointment and dismissal should always rest.

its own authority, its traditions, its discipline. The hierarchy may claim to stand as the proctor and plenipotentiary of the whole community in all that may concern religion; but this is a claim not to be admitted by Governments, Catholic any more than Protestant; and a Catholic Government the English Government in Ireland ought to all intents and purposes to be. The proctor for a nation is the natioual government. The community will show its real wants most truly and naturally, and secure them best, if it acts for itself, through its proper adequate representative. And the only adequate representative of the whole community is its executive government. While the bishops, if they have the appointment of professors in a Catholic university, will inevitably ask: 'Who will suit the bishops? who will be convenient to the bishops?' the community is interested in asking solely: 'Who is the best and most distinguished Catholic for the chair?' And this is the very question which, if the professors are of State appointment, it is always the Government's duty, and will in general (allowing for human imperfection) be its practice, to ask and to rule itself by.

The truth is, religion is too great a thing, too universal a want, to be well dealt with except nationally Men in general may think little and feel bluntly; but the chief exercise of their higher thought and emotion which they have, is their religion. Their conduct may

be very imperfect, but the chief guide and stay of conduct, so far as it has any at all, is their religion. Nothing, therefore, is of so much importance to them. This is where the philosophical Liberals, who think that religion is a noxious thing and that it must die out, make so great a mistake. Their mistake is so great, indeed, that they themselves cannot persistently keep to it, and we find even the acutest of them contradicting themselves flatly. Mr. Mill tells us, in a passage where he is adopting his father's words, that his father 'looked upon religion as the greatest enemy of morality.' Eighteen pages further on, where he is descanting on the lamentable absence, in English society, of any high and noble standard of conduct, he adds that this absence prevails everywhere '*except among a few of the stricter religionists.*' The little that *is* done for morality is done, then, by morality's greatest enemy! A statesman in any Christian country will be nearer the truth in thinking that religion is morality's greatest friend and that therefore it is mankind's greatest friend. Men want religion, a rule and sanctions of conduct which enlist their feelings; and the actual forms of Christianity are approximations to this. And men want it public and national, to prevent religion, the proper source of all solidity and union, from being precarious and divided. Hence the national churches. The philosopher may talk of over-strong churches, *les églises trop fortes;* he may

point out that public institution makes them so, that without this a church will roll from one schism to another—*roulera de schisme en schisme*—until it disappears. That may be a charming prospect for the philosopher, but it is just what the bulk of the community want to guard against. 'Church history,' says M. Renan, with a wistful gaze towards that happy time, 'was one tissue of schisms till the Christian Emperors stopped them;' to an ordinary mortal, that is just the merit of Constantine's work.

But some nations, in their attachment to religion, have come to allow the corporation of its priests to govern the whole State. This, as we have seen, is inevitably bad government; the State, the corporation which contains all others, ought not to be governed by one of the corporations which it contains. And in Italy Cavour, to stop this, raised the cry: A free Church in a free State! Liberals have taken this as the last word of the great statesman's philosophy in these matters. It was no such thing. It applied, as Cavour meant it, simply to countries where the Church had hitherto ruled the State; this usurpation it stopped, and to accomplish thus much was a great gain, a great progress. Church and State were left to go each its own road; the clergy's sway of the State was stopped. Cavour did not pause to ask, it was not then the moment for asking, what the Church really was; he took the Church as he

found it, the Church represented by the clergy, and he left them perfectly free to manage what are called their own affairs, on condition they left the State to manage itself. But who are interested in the Church, that is, in the society formed of those concerned about religion? The clergy only? No, as we have seen, the whole people. And who are really the Church? Evidently the whole religious society, and not its ministers only. The ministers exist for the sake of the community to which they minister; the clergy are for the people, not the people for the clergy. A national church is what is wanted; but a clergy, as the clergy in Italy now are, disparaged, irritated, and isolated, treated very rigorously as to church property, yet treated as the sole depositaries of religion, give to religion a form narrower and narrower, make it a thing which less and less corresponds to the wants of the nation and of the time, and communicate their own discontent to all with whom they come in contact.

This is what is happening in Italy; this is what comes of taking a catchword, like *a free Church in a free State*, absolutely, instead of using it, as wise men do, only for the precise moment and circumstances which it suits. The Secularist Liberals so little know what religion really is, they so sincerely think that religion if wisely neglected will die out, that they keep on advising any treatment of the difficulty

rather than the right one. They can see that religion in Italy is in an unsatisfactory state, and that, on the other hand, the sectarianism of Protestant countries is baneful; but 'in religious matters,' says the *Progresso Educativo*, 'our traditional indifferentism will save us from sectarian divisions.' This traditional indifferentism is not what needs encouraging; a severe judge might say that the traditional indifferentism of the Italians in religion was probably the secret of their traditional impotence. What educated Italians need is to be less indifferent in religion, and to know that it is a matter which concerns themselves also, not the clergy only. M. de Molinari, a writer who is always worth reading, is eloquent in the *Journal des Débats* on the injustice of attempts such as are being now made in Switzerland, attempts by the community to control the organisation of religion to meet their own wants. 'The Church is free,' says he, 'and the State is free;'—and for him the clergy are the Church and the community are the State. 'The Church has the right to change, if it chooses, its symbol or its discipline, without asking leave of cantonal or federal councils, just as the State has the right to change its constitution without asking leave of bishops or clergy.' He forgets that the community, whom these cantonal and federal councils represent, is the Church; that they have religious wants and have formed themselves into a religious society to satisfy them; that the bishops and clergy

are but the ministers to the society, and a small fraction of it; and that the whole design of the society is frustrated if the wants of the mass are to be of no account, but the fraction of ministers is to rule everything. As well might he say that the ministers and magistrates in the State have a right to change its constitution, without asking leave of the community. He speaks in this way because he has no conception of religion as of a real want of the community which the community have to satisfy: he has not this conception, and it would be a great embarrassment to him to admit it into his calculations and to have to adjust things to it. But it is a conception which may be found working, more or less clearly, in the mind of communities, of nations, wherever we turn; and our age will have to deal with it.

In Italy it is beginning to fix the attention of intelligent men, who a few years ago thought that *a free Church in a free State* was all they wanted. Signor Bonghi, one of these persons, made last year a remarkable speech on the subject in the Italian Parliament, and has since published it. He blames the suppression of the theological faculties in the national universities; he says that the clergy is more and more being cut off from the life and thought of the nation, and that this is not good for the clergy, not good for religion, not good for the nation. A national church in harmony with the community's wants is what he

drives at. But above all does this conception manifest itself in the serious Germanic, or partly Germanic nations, where the sense that religion is a genuine concern of the community is native, and where the indifferentism of philosophical Liberalism is a plant of artificial growth. What is passing in Switzerland and Germany shews the desire to give effect to the idea of national churches, to the idea that religion is an affair of the community, against the difficulties which the peculiar constitution and relations of the Roman Catholic clergy throw in the way of its working. The governments are not trying to impose a religion of their own, some modern enlightenment or other congenial to governments and discouraging to religion; they are, at bottom, trying to give effect to this sincere desire of the community. In one place there is some new dogma which the community do not want to receive, but which the clergy want to force upon them; in another place there is some religious reform for which the community are ripe, but to which the clergy oppose a stubborn resistance; in another, there is some cherished national aim of the community on which the clergy frown. And the clergy retain, from the times when they were the Church and the Church ruled the State, all sorts of means of thwarting and punishing the community which sticks to its own view and does not comply with theirs. To remove all these means, to make the community the Church, and self-ruling;

above all, to transform the clergy itself, to bring the clergy, a body in many respects so excellent, into closer sympathy with the community by bringing it to share the community's best culture,—this, I believe, is in general the sincere intention of the religious policy of the German and Swiss governments, although in particular points they may have acted harshly and unadvisedly. The community, in Switzerland and Germany, wishes religion a public institution and yet a thing which may grow according to their needs and be administered according to their needs. This is what Prince Bismarck has to meet; it is a wish which in modern communities will more and more make itself felt, and which governments will have to meet more and more. And neither the wish nor the trying to meet it is Cæsarism.

Well, but when we English praise Prince Bismarck for what he is doing and sympathise with him, we pass judgment on ourselves. We have not clean hands in the matter for which we praise him. He is doing what our mind has not been clear enough, our prejudices not enough under the control of our reason, to put us in a position for doing. Some people say he is following our Tudor legislation. If he followed our Tudor legislation, he would establish Protestantism throughout Prussia, and pass an act of uniformity to make Catholics conform to it. If he followed the policy of our modern Liberals, he would withhold from

the Catholic community any public institution of their religion or any Catholic university to send either their laymen or clergy to. He does nothing of the kind. He is following a course which has its difficulties, indeed, but which approves itself to reason. Our modern Liberals, on the other hand, are for governing Ireland in obedience to a maxim which turns out, when we examine it, to be a falsism ; current enough, certainly, but unsound ; trite and false;—the maxim that a modern State must not endow religion in any shape. So that really the right thing to do is not to go about saying: 'The Liberal party has emphatically condemned religious endowment, the Protestants of Great Britain are implacably hostile to the endowment of Catholicism in any shape or form,' if in this both the Liberal party and the Protestants of Great Britain are proceeding upon a falsism. For Ireland can never be successfully governed so long as, in a matter which deeply interests her and in which her wishes differ from ours, we proceed, however resolutely, upon a falsism. The right thing is rather, if we believe in the power of reason, and that the Liberal party and the Protestants of Great Britain have faculties for being persuaded of reason, to labour diligently to convince them that it is a falsism they are going upon. And the Liberal party so much values itself upon its intelligence that with them we ought to begin, and show them, as we have been trying to show

them here, that this favourite old stock maxim of theirs : 'The State (that is, the nation in its collective and corporate character) is of no religion,' is quite unsound. In exchange for it we ought to solicit them, with a persistency which never tires, to take a better : 'It is false to say the State is of no religion ; *the State is of the religion of all its citizens without the fanaticism of any of them.*'

Surely for getting this kind of return made upon our minds and maxims there could not well be a more favourable moment than the present ! The country is profoundly Liberal ; that is, it is profoundly convinced that a great course of growth and transformation lies before it ; and whoever should try to make it think that this is not so, but that all must stay where it is, would soon find out his mistake. Still the actual policy and principles of our Liberal friends do seem, if we may judge by the recent elections, to be profoundly uninteresting to the country, or at any rate, to have lost their charm for it. So instead of being angry with us for having long said that their performance was not quite what they supposed, that their doings wanted more thought to direct them, that for the religious difficulty in Ireland the abolition of the Protestant establishment by the power of our Dissenters' antipathy to State churches was really no solution, that for the difficulties arising out of the way in which the land in England is held, bills like the Real Estates Intestacy

Bill were no solution; that even marriage with one's deceased wife's sister was not a staff to help one far on one's road;—instead of being angry with us for saying this, and declaring still, like the *Daily Telegraph*, that 'there is no such thing as conquering the principles of which Mr. Gladstone has been these five years the triumphant exponent,' surely our Liberal friends would do well to consider whether there may not have been some truth in what we said, and to use the leisure they seem likely to have for reviewing their ideas a little.

The Secularist Radicals, especially the younger and more ardent among them, who have been brought up to think that religion is dying out, and who are all of them, perhaps, more or less in the same case as Hume, who confessed that he had never read the New Testament with attention, might well improve their present opportunity by acquainting themselves a little with the nature and history of religion, and to this end studying, among other books, the Bible. But the benefit which we may expect from the Secularist Radicals, during the present lull, thus revising their ideas, is as nothing compared to what may accrue from the Dissenters performing the same process. It is not too much to say that the chief hope of progress, in the next five years, for true Liberalism, lies in the conversion of the Protestant

Dissenters; or to speak more correctly, as well as, perhaps, more agreeably, in their *nationalisation.*

They can hardly be ignorant that a very strong light has been turned lately upon them and upon their proceedings, and that the general impression left with the public has not been favourable. They have offended, any clear-sighted looker-on can see that they have offended, what Burke well calls 'the ancient and inbred integrity, piety, good nature and good humour of the English people.' We shall not affect to regret this, for we have long said, and the Dissenters have been very angry with us for saying, that they are an obstacle to civilisation. They are indeed; our greatest. But we say this so resolutely because we see so clearly of what good elements their body is composed; how signal an example they furnish of a false tendency given to admirable forces and of the grievous waste of power caused thereby. We have never forgotten, too, although perhaps we have never said with emphasis enough that we remembered it, how many of them have inherited their position of conflict with the national church, not made it for themselves. Such persons are like men who have inherited, not originated, a vexatious lawsuit; a wise man, however, when he has inherited such a lawsuit, does not persist in it because he has inherited it, but gets out of it as fast as possible. That it is a vexatious lawsuit, a suit causing a fatal exasperation of temper,

with a vain and most lamentable waste of life and power, in which the Protestant Dissenters are engaged, is more and more forcing itself upon the mind both of the public in general, and of religious people in particular. As far as religion is concerned, that course cannot be a wholesome one which has produced a sort of temper so opposite to peace, that even in Barrow's time the great evangelical injunction to *follow peace* had among the Nonconformists come, as he remarked, to be 'by many esteemed an impossibility, by others a wonder, by some a crime;' a temper which has grown now to be more intense and fiercer than ever. That course cannot, moreover, be for the advancement of religion, which ends by setting up as its great mark an object in no way religious: religious equality. The cry, the watchword of the modern Dissenters, the eternal burden of Mr. Miall's song, is *religious equality*. But the evangelical watchword is religious submission; *submitting yourselves one to another in the fear of God.* Nay, and the very Pope, the representative of the religion which is, as the *Noncomformist's* correspondent says, 'heathenish superstition,' has at least the grace to call himself by predilection the servant of servants, *servus servorum.*

This, I say, so far as religion is concerned, is clear. The general public, however, is getting indisposed to the Dissenters not on grounds of religion only; its good sense and reflection are beginning to tell against

them too. It has begun to dawn upon the general public, the Dissenters being of late perpetually before it with the cry that their conscience constrains them to do this and will not let them do the other, it has dawned upon the public, the question having become thus practical, that after all one must ask, where the public action is concerned in what a man's conscience commands or forbids, whether the conscience commands or forbids *reasonably*. And it has come very much to the conclusion that a man's conscience commanding himself is reasonable, but that his conscience forbidding his neighbours is unreasonable. It is agreed that a man is not to be made to say a thing is right if he does not think so; when his conscience protests against this, it protests reasonably. A man is free to say he thinks monarchy wrong, he is free to say he thinks an Established Church wrong; he is not to be compelled to accept the ministrations of bishops, he is not to be compelled, even, to take off his hat to the Queen. Positive approval and adherence are matters of conscience. But the majority wish for a monarchy, the majority wish for the public institution of religion known as the Church of England. Public funds, we will suppose, are applied directly or indirectly to the support of both. Well, but a man objects; he feels his conscience violated by his contributing to maintain an institution which he thinks wrong. Well, now, what the public are more and

more coming to perceive is that this objection is *not* reasonable, and that the proper answer to it, instead of turning up one's eyes and saying 'How very grievous!' is: 'Then you *ought not* to feel your conscience violated by it.' No one has a right to oblige you to say you approve of monarchy if you disapprove of it, or to conform to the Church of England if you differ from it; but you, on the other hand, have no right to prevent the majority from instituting monarchy or instituting a national church, and providing for them directly or indirectly, partially or entirely, out of public funds. To profess an opinion or adopt a practice for *oneself*, can reasonably be said to engage one's conscience; to pay a tax laid by the majority for an institution which the opinion or practice of the majority leads them to adopt, can engage the conscience only if what is instituted is plainly flagitious. Violent men easily allege, no doubt, that all opinion or practice at variance with their own is flagitious and pernicious. But here, again, the public at large is the judge, and more and more assumes the right of judging, whether this allegation is fairly sustainable. Direct support Dissenters have to give to the Church of England none; but a school rate, suppose, may in some cases make them give an indirect support to it. Well, for this to engage their conscience, the church-school and what it teaches must be something plainly flagitious. Many violent Nonconformists have alleged in

the past and do allege in the present against the Church of England, that its opinion and practice are plainly flagitious and pernicious; but this allegation all reasonable people, and the public at large also, feel to be unsustainable. Pretensions that for their support require this allegation to be true, are felt, therefore, to be unsustainable also. And a dissatisfaction and impatience, founded on an increasingly clear perception of all this, is beginning to pervade the nation at large in respect to the action of the Dissenters.

No doubt the Dissenters will be slow to see this themselves. They will be slow to yield, they are not apt at yielding. Their first thought, their first effort, will be to unite the discomfited Liberal party again in a programme of their own dictating. They have settled ideas, the Liberal party has not; they know clearly what they seek, the Liberal party does not. Political Dissent will for a time become more prominently political than ever, and contend more fiercely; but the more it does this, the more will its inherent faults make themselves felt, the more will its unattractiveness, its bitter narrowness, its essential unreligiousness become apparent, and the more dissatisfied will the public grow with it. Mr. Miall does not charm; but the lead will pass from Mr. Miall to men like Mr. Leatham, a spokesman whom really, when one hears or reads some of his deliverances, a moralist might be almost tempted to call the drunken Helot of Protes-

tant Dissent, an example set up to show the temper and tone Dissent, or the championing of it, at last leads to. Or there will be efforts like Mr. Chamberlain's to win the working men to the cause of Nonconformity by making their jealousy of the Church, as a Conservative institution, combine its force with the Dissenters' jealousy of the Church as a religious rival; such efforts will have a certain measure of success, and the confluence of two jealousies may produce a considerable stream. But Dissent is a *religious* cause: it has to stand or fall as a religious cause. And the more partisans it has like Mr. Leatham or Mr. Chamberlain, the more these partisans take the lead, the more their efforts are crowned with success, so much the more will Dissent as a religious cause be discredited, so much the more will it lose ground in the esteem of the nation. More and more it will shock the 'integrity, piety, good nature and good humour of the English people.' It will lose ground in the attachment of its own best men for the same reason. On all its best men the dissatisfaction with its temper will operate; on the younger amongst them, the growing modern perception that all the forms of Christianity are approximative only, that one's own sect has not got the truth, *the gospel*, while all other religious communities are in error, will act in concert with the other ground for dissatisfaction. Already this is manifest, already these causes of dissolution are beginning to act. Twenty

years hence, Dissent will have no such group to present as the group of its best men is now; these will have passed away, and the younger men of like worth will be elsewhere. Mr. Miall seems making preparation to retire, and he will retire at the right time, for the part which he has played will not be possible for a man of his good qualities in the future. May he, and Mr. Carvell Williams, and the rest of these men of war, who have talked so much of religion, who have really cared for it so much, and have stood so much in its way, may they in the evening of their day, before they close their eyes for ever, be allowed at least one short glimpse of what *the way of peace* really is!

Yes, the cause of the Nonconformists is destined to suffer eclipse, not to be the rallying-point of the Liberalism of the future. And religious history's final sentence on this cause, whatever praise political history may bestow on it, will be a severe one. It will say of it, even after all its advocates have been heard and everything has been weighed which tells in its favour, that in temper and contentiousness it began, by temper and contentiousness it perished. It was originally embraced by the strong and serious middle part of a somewhat hard, a high-tempered, and a self-willed nation. Of these qualities of the nation, its strong middle part had naturally most; and these qualities are not religious. They have given to Nonconformity a fatal ply; so far one must speak unfavour-

ably. Then, however, comes the worthier side of Nonconformity into view. Seriousness and strenuousness and manliness and uprightness *are* religious ; and the English Nonconformists have been eminent for them, and they can never be lost. They will avail to give their possessors a victory for good, though not for evil. They will not give them a victory for sectarianism over the national church, but they will enable them to transform the national church as it needs transformation. All the faults of the Church come not from its being a public institution, but from its not being enough a public institution. There is, even at present, far more of popular sentiment and sympathy among the clergy than is commonly supposed ; but all the faults with which the Church is now reproached, its close dependence upon the landed gentry, its sale of livings, its disregard, in the choice of incumbents, of the wants and wishes of the people, its retention of worthless ministers, its over-ritualism and fantasticality, all are to be remedied not by making the Church a private institution but a more truly public one, and by pouring into it that large portion of the middle class, with its popular sentiment and its robust energy, which the Dissenters constitute. If the Church has effeminacy, they are the people to do it good; if it has silliness and formalism, they are the people to cure it. A majority of the nation desire a public institution of religion and a national church ; how

great a majority we cannot tell, for the Dissenters have hindered our ascertaining, but I believe an immense majority. Not to keep up a jealous and angry struggle against this wish, but to adopt it, to impress their stamp upon the national church, and to aid in developing that religion of the future, which, as all living things follow the law of growth and change, will not in a great and living people be the religion of to-day, is the new aim to which, in the next five years, the Dissenters should have their thoughts and wishes turned.

But in this and all the matters most important to us, progress, at the point where our nation now stands, depends on our getting just, clear, well-ordered thoughts about them, and setting at defiance clap-trap and catch-words. We have seen that Ireland has a right to a Catholic university, and that it is really expedient she should have one. We cannot expect her to be satisfied, any quantity of agitation for Home Rule is justified, so long as we refuse one to her. But she is governed in deference to the British Protestant's clap-trap and catchwords, which find their expression in such sayings as that 'the Protestants of Great Britain are implacably hostile to concurrent endowment in any shape or form;' and if she is to be governed aright, it can only be in defiance of such clap-trap. But for an active politician to go counter to clap-trap is, as we have seen, hard; and, indeed, by the nature of things it

must be hard. And therefore it is that we rejoice to see a moment of lull in their active political life come to so many of our Liberal friends, because they thus escape from great temptation, and are set free to use their intelligence. For the active politician can hardly get on without deferring to clap-trap and even employing it. Nay, as Socrates amusingly said, the man who defers to clap-trap and the man who uses his intelligence are, when they meet in the struggle of active politics, like a doctor and a confectioner competing for the suffrages of a constituency of schoolboys; the confectioner has nearly every point in his favour. The confectioner deals in all that the constituency like; the doctor is a man who hurts them, and makes them leave off what they like and take what is disagreeable. And accordingly the temptation, in dealing with the public and with the trade of active politics, the temptation to be a confectioner is extremely strong, and we see that almost all our leading newspapers and leading politicians do in fact yield to it. What our policy towards Irish Catholicism has, in deference to British Protestant feeling, really been, we now know; but the *Daily Telegraph* calls it 'a great and genial policy of conciliation,' and the *Times* says that 'English Liberals demanded, in 1868, that the grievances which alienated the Irish Catholic should be removed.' This is to speak like a confectioner; for we know, and the Irish, alas! know, that the

words 'so far as this was compatible with Protestant prejudice, and could be made to fall in with Non-conformist ends,' require to be understood. And Mr. Lowe is even bolder than the newspapers, and declares that by their Irish policy 'the ministry resolved to knit the hearts of the empire into one harmonious concord, and knitted they were accordingly.' What could be more fitted to delight the public? But this is really to speak like a confectioner; and just as Mr. Lowe calls Mr. Disraeli a teratologist, so one may call Mr. Lowe, in his turn, a confectioner, a brilliant and accomplished confectioner. Only the confectioner is not at this moment what we most require. Our wants are the same as those which made Socrates, again, say, that though himself no confectioner and taking quite another line from the active politicians round him, indeed, just because of this, he, or any man who held the same course as to current clap-trap that he did, was 'the only true politician of men now living.'

PREFACE

TO

THE FIRST EDITION.

(1868.)

I WAS in 1865 charged by the Schools Enquiry Commissioners with the task of investigating the system of education for the middle and upper classes which prevails in France, Italy, Germany, and Switzerland. In the discharge of this task I was on the Continent nearly seven months, and during that time I visited the four countries named, and made as careful a study as I could of the matters to which the Commissioners had directed my attention.

It is expedient for the satisfactory resolution of those educational questions, which are at length beginning seriously to occupy us, both that we should attend to the experience of the Continent, and that we should know precisely what it is which this experience says. As to compulsory education, denominational education, secular education, the continental precedents are to be studied, and they are to be studied for the sake of seeing what they really mean, and not

merely for the sake of furnishing ourselves with help from them for some thesis which we uphold.

Most English Liberals seem persuaded that our elementary schools should be undenominational, and their teaching secular; and that with a public elementary school it cannot well be otherwise. Let them clearly understand, however, that on the Continent generally, everywhere except in Holland, the public elementary school is denominational,[1] and its teaching religious as well as secular.

Then, again, as to compulsory education. It may be broadly said, that in all the civilized states of Continental Europe education is compulsory except in France and Holland. The opponents of compulsory education quote Mr. Pattison, to show that in North Germany 'compulsory attendance is a matter which produces comparatively little practical result.' They quote a report of mine, to show that in French Switzerland 'the making popular education compulsory by law has not added one iota to its prosperity.' But yet the example of the Continent proves, and nothing which Mr. Pattison or I have said disproves, that in general, where popular education is most prosperous, there it is also compulsory. The compulsoriness is, in general, found to go along with the prosperity, though it cannot be said to cause it; but the same high value among a people for education which leads to its prospering among them, leads also in

[1] Of course with what we should call a conscience clause.

general to its being made compulsory. Where the value for it is not ardent enough to make it, as it is in Prussia and Zurich, compulsory, it is not, for the most part, ardent enough to give it the prosperity it has in Prussia and Zurich. After seeing the schools of North Germany and of German Switzerland, I am strongly of this opinion. It is the same thing as in religion. The vitality of a man's religion does not lie in his imposing on himself certain absolute rules as to conduct. But in general, if his religion is vital, it will make him lay on himself absolute rules as to conduct. Above all, it will make a newly awakened sinner do this; and England, in spite of what patriotic people say, I must take leave to regard, in educational matters, as a newly awakened sinner.

Therefore I do not think the example of Prussia and Switzerland will serve to show that compulsoriness of education is an insignificant thing; and I believe that if ever our zeal for the cause mounts high enough in England to make our popular education 'bear favourable comparison,' except in the imagination of popular speakers, with the popular education of Prussia and Switzerland, this same zeal will also make it compulsory.

But the English friends of compulsory education, in their turn, will do well to inform themselves how far on the Continent compulsory education extends, and the conditions under which alone the working classes, if they respect themselves, can submit to its

application. In the view of the English friends of compulsory education, the educated and intelligent middle and upper classes amongst us are to confer the boon of compulsory education upon the ignorant lower class, which needs it while they do not. But, on the Continent, instruction is obligatory for lower, middle, and upper class alike. I doubt whether our educated and intelligent classes are at all prepared for this. I have an acquaintance in easy circumstances, of distinguished connections, living in a fashionable part of London, who, like many other people, deals rather easily with his son's schooling. Sometimes the boy is at school, then for months together he is away from school, and left to run idle at home. He is not the least an invalid, but it pleases his father and mother to bring him up in this manner. Now I imagine no English friends of compulsory education dream of dealing with such a defaulter as this, and certainly his father, who perhaps is himself a friend of compulsory education for the working classes, would be astounded to find his education of his own son interfered with. But if my worthy acquaintance lived in Switzerland or Germany, he would be dealt with as follows. I speak with the school-law of Canton Neufchâtel immediately under my eyes, but the regulations on this matter are substantially the same in all the states of Germany and of German Switzerland. The Municipal Education Committee of the district

where my acquaintance lived would address a summons to him, informing him that a comparison of the school-rolls of their district with the municipal list of children of school-age showed his son not to be at school; and requiring him, in consequence, to appear before the Municipal Committee at a place and time named, and there to satisfy them either that his son did attend some public school, or that, if privately taught, he was taught by duly trained and certificated teachers. On the back of the summons my acquaintance would find printed the penal articles of the school-law sentencing him to a fine if he failed to satisfy the Municipal Committee; and, if he failed to pay the fine, or was found a second time offending, to imprisonment. In some Continental states he would be liable, in case of repeated infraction of the school-law, to be deprived of his parental rights, and to have the care of his son transferred to guardians named by the State. It is indeed terrible to think of the consternation and wrath of our educated and intelligent classes under a discipline like this; and I should not like to be the man to try and impose it on them. But I assure them most emphatically,—and if they study the experience of the Continent they will convince themselves of the truth of what I say,—that only on these conditions of its equal and universal application is any law of compulsory education possible.

Of the education of the middle and upper classes, however, I have no need to speak at length here, for the following work is devoted to that subject. Secondary and higher education is not, like popular education, a subject which very keenly interests at present our educated and intelligent classes. It is their own education, and with their own education they are, it seems, tolerably well satisfied. Yet I hope that here again these classes,—above all I hope that the great middle class, which has much the widest and the gravest interests concerned in the matter,—will not refuse their attention to the experience afforded by the Continent. Before concluding that they can have nothing to learn from it, let them at any rate know and weigh it.

To three points particularly let me invite their consideration. In the first place, let them consider in its length and breadth the fact that on the Continent the middle class in general may be said to be brought up *on the first plane*, while in England it is brought up *on the second plane*. In the public higher schools of Prussia or France some 65,000 of the youth of the middle and upper classes are brought up; in the public higher schools of England,—even when we reckon as such many institutions which would not be entitled to such a rank on the Continent,—only some 15,000. Has this state of things no bad effect upon us? If the training of our

working class, as compared with the working classes elsewhere, inspires apprehension, has the training of their employers, as compared with employers elsewhere, no matter of apprehension for us? There are people who say that the labour questions which embarrass us owe their gravity and danger at least as much to the inadequacy of our middle class for dealing with such questions, as to the inadequacy of our working class. 'English employers of labour,' these people say, 'are just now full of complaints of the ignorance and unreasonableness of the class they employ, and of suggestions, among other things, for its better instruction. It never occurs to them that their own bad instruction has much to do with the matter. Brought up in schools of inferior standing, they have no governing qualities, no aptitude, like that of the aristocratic class, for the ruling of men; brought up with hollow and unsound teaching, they have no science, no aptitude for finding their way out of a difficulty by thought and reason, and creating new relations between themselves and the working class when the old relations fail.' I do not say that this is certainly so, but I say that the bearings of our education on the matter,—our education both in itself and in comparison with that of the Continent,—are at least worth studying.

The second point is this. The study of continental education will show our educated and intelli-

gent classes that many things which they wish for cannot be done as isolated operations, but must, if they are to be done at all, come in as parts of a regularly designed whole. Mr. Grant Duff, who, I must say, directed his attention to educational matters long before they were in everybody's thoughts as at present, has pointed this out with great truth and clearness. Our educated and intelligent classes, in their solicitude for our backward working class, and their alarm for our industrial preëminence, are beginning to cry out for technical schools for our artisans. Well-informed and distinguished people seem to think it is only necessary to have special schools of arts and trades, as they have abroad, and then we may take a clever boy from our elementary schools, perfected by the Revised Code, and put him at once into a special school. A study of the best Continental experience will show them that the special school is the crown of a long co-ordered series, designed and graduated by the best heads in the country. A clever boy in a Prussian elementary school, passes first into a *Mittelschule*, or higher elementary school, then into a modern or *real* school of the second class, then into a *real* school of the first class, and finally, after all these, into the special school. A boy who has had this preparation is able to profit by a special school; to send him there straight from the elementary school, is like sending a boy from the fourth form at one of our

classical public schools to hear Professor Ritschl lecture on Latin inscriptions.

I come, lastly, to the third point for our remark in Continental education. These foreign Governments, which we think so offensively arbitrary, do at least take, when they administer education, the best educational opinion of the country into their counsels, and we do not. This comes partly from our disbelief in government, partly from our belief in machinery. Our disbelief in government makes us slow to organise government perfectly for any matter; our belief in machinery makes us think that when we have organised a department, however imperfectly, it must prove efficacious and self-acting. The result is that while, on the Continent, through Boards and Councils, the best educational opinion of the country,—by which I mean the opinion of men like Sir James Shuttleworth, Mr. Mill, Dr. Temple, men who have established their right to be at least heard on these topics,—necessarily reaches the Government and influences its action, in this country there are no organised means for its ever reaching our Government at all. The most important questions of educational policy may be settled without such men being even heard. A number of grave matters affecting public instruction in this country,—our system of competitive examinations, our regulation of studies, our whole school-legislation,—are at the present moment settled one

hardly knows how, certainly without any care for the best counsel attainable being first taken on them. On the Continent it is not so; and the more our Government is likely, in England, to have to intervene in educational matters, the more does the Continental practice, in this particular, invite and require our attention.

In conclusion. There are two chief obstacles, as it seems to me, which oppose themselves to our consulting foreign experience with profit. One is, our notion of the State as an alien intrusive power in the community, not summing up and representing the action of individuals, but thwarting it. This notion is not so strong as it once was, but still it is strong enough to make it opportune to quote some words from a foreign Report before me, which sets this much obscured point in its true light:—

'*Le Gouvernement ne représente pas un intérêt particulier, distinct, puisqu'il est au contraire la plus haute et la plus sincère expression de tous les intérêts généraux du pays.*'

This is undoubtedly what a government ought to be, and if it is not this, it is the duty of its citizens to try and make it this, not to try and get rid of so powerful and essential an agency as much as possible.

The other obstacle is our high opinion of our own energy and prosperity. This opinion is just, but it is possible to rely on it too long and to strain our energy

and our prosperity too hard. At any rate, our energy and our prosperity will be more fruitful and safer, the more we add intelligence to them; and here, if anywhere, is an occasion for applying the words of the wise man :—'If the iron be blunt, and a man do not whet the edge, then must he put forth more strength; but wisdom is profitable to direct.'

CONTENTS.

CHAPTER I.

DEVELOPMENT OF THE GERMAN SECONDARY OR HIGHER SCHOOLS.

PAGE

The Renascence and the Reformation—The German Schools and the Reformation—Decline of the German Schools and their Recovery—The Prussian Schools Representative of those of Germany 1

CHAPTER II.

PRESENT ORGANISATION OF THE SECONDARY OR HIGHER SCHOOLS IN PRUSSIA.

Higher Schools of Prussia—Gymnasien—Progymnasien—Realschulen—Höhere Bürgerschulen—Vorschulen, or Preparatory Schools—Numbers of Teachers and Scholars 7

CHAPTER III.

GOVERNMENT AND PATRONAGE OF THE PRUSSIAN PUBLIC SCHOOLS.

Common Law of Prussia—State-Action and Regulation—Origin and History of the Central Education Department

PAGE

—Origin and History of the Provincial School Authorities—Provincial School Boards and District School Boards—Examining Commissions—Local and Municipal School Authorities—Endowments and Charities; their Management—Patronage of Schools . . . 22

CHAPTER IV.

PREPONDERANCE OF PUBLIC SCHOOLS. THE *ABITURIENTENEXAMEN.*

Preference for Public Schools—The Leaving Examination (Abiturientenexamen); its History—Present Plan of the Leaving Examination in Gymnasien—Object proposed by the Founders of the Leaving Examination—Leaving Examination in Realschulen—Examinations of Passage 44

CHAPTER V.

THE PRUSSIAN SCHOOLMASTERS; THEIR TRAINING, EXAMINATION, APPOINTMENT, AND PAYMENT.

Examination for Schoolmasters—Its History—Present Plan of Examination for Schoolmasters—Normal Seminaries for Schoolmasters—Probation and Practising Lessons of Schoolmasters—Appointment of Schoolmasters, and Jurisdiction over them—Intervention of the Education Minister—Religious Instruction—Denominational character of the Prussian Schools—Wide Acceptation of the Denomination *Evangelisch*—Exclusion from School Posts of certain Dissenters and of Jews—Rank and Title of Schoolmasters—Payment of Schoolmasters. . . 67

CHAPTER VI.

THE PRUSSIAN SYSTEM SEEN IN OPERATION IN PARTICULAR SCHOOLS.

PAGE

The Berlin Schools—the Friedrich-Wilhelms Gymnasium—Its History—Its Confessional Character, Teachers and Charges—Its Classes—Its Lessons—School-Books—The Greyfriars Gymnasium—Its History and Endowment—Day Scholars and Boarders in German Schools—The Joachimsthalsche Gymnasium—Schulpforta—The Studientag at Schulpforta—Games and Gymnastics—The Friedrich-Wilhelms Gymnasium at Cologne—Studies of the Gymnasium and of the Realschule—Conflict between their Partisans. 106

CHAPTER VII.

SUPERIOR OR UNIVERSITY INSTRUCTION IN PRUSSIA.

Passage from Secondary to Superior Instruction—Special Schools and Universities—Universities of Prussia—Proportion of University Students to Population—German Universities State-Establishments—University Authorities—University Teachers—1. Full Professors—2. Assistant Professors—3. Privatdocenten—Students—Fees—Certificates of Attendance at Lectures—Degrees—The Staatsprüfung—Character of the German University System. 145

CHAPTER VIII.

GENERAL CONCLUSION. SCHOOL STUDIES.

Probable Issue of the Conflict between Classical and Real Studies—New Conception of the Aim and Office of In-

PAGE

struction—The Circle of Knowledge takes in both the Humanities and the Study of Nature—This not enough recognised at present—Tyranny of the Humanists—Tyranny of the Realists—Our Present School-Course—How to Transform it—Excessive Preponderance of Grammatical Studies, and of Latin and Greek Composition—The Ancient Languages to be more Studied as Literature—And the Modern Languages likewise—Summing up of Conclusions. 167

CHAPTER IX.

GENERAL CONCLUSION CONTINUED. SCHOOL ESTABLISHMENT.

England and the Continent—Civil Organisation in Modern States—Civil Organisation Transformed not only in France but also in other Continental States—Not in England—A Result of this in English Popular Education—English Secondary and Superior Instruction not touched by the State—Inconveniences of this—The Social Inconvenience—the Intellectual Inconvenience—Their Practical Results—Science and Systematic Knowledge more prized on the Continent than in England—Effect of this on our Application of the Sciences, and on our Schools and Education in General—A Better Organisation of Secondary and Superior Instruction a Remedy for our Deficiencies—Public and Private Schools—Necessity for Public Schools—With Public Schools, an Education Minister Necessary—A High Council of Education Desirable—Functions of such a Council—Provincial School Boards Requisite—How to make Public Schools—Defects of our University System—Oxford and Cambridge merely *Hauts Lycées*—London University merely a Board of Examiners—Insufficient Number of Students under

PAGE

Superior Instruction in England—Special Schools wanted and a Reorganised University System, taking Superior Instruction to the Students, and not Bringing these Students to Oxford and Cambridge for it—Centres of Superior Instruction to be formed in different parts of England, and Professors to be Organised in Faculties—Oxford, Cambridge, and London to remain the only Degree-Granting Bodies—Education Minister should have the Appointment of Professors—Probable Co-operation of Existing Bodies with the State in Organising this New Superior Instruction—How, when Established, it should be Employed—Final Conclusion 196

APPENDIX 251

CHAPTER I.

DEVELOPMENT OF THE GERMAN SECONDARY OR HIGHER SCHOOLS.

The Renascence and the Reformation—The German Schools and the Reformation—Decline of the German Schools and their recovery—The Prussian Schools Representative of those of Germany.

THE schools of France and Italy owed little to the great modern movement of the Renascence. In both these countries that movement operated, in both it produced mighty results; but of the official establishments for instruction it did not get hold. In Italy the mediæval routine in those establishments at first opposed a passive resistance to it; presently came the Catholic reaction, and sedulously shut it out

from them. In France the Renascence did not become a power in the State, and the routine of the schools sufficed to exclude the new influence till it took for itself other channels than the schools. But in Germany the Renascence became a power in the State; allied with the Reformation, where the Reformation triumphed in German countries the Renascence triumphed with it, and entered with it into the public schools. Melancthon and Erasmus were not merely enemies and subverters of the dominion of the Church of Rome, they were eminent humanists; and with the great but single exception of Luther, the chief German reformers were all of them distinguished friends of the new classical learning, as well as of Protestantism. The Romish party was in German countries the ignorant party also, the party untouched by the humanities and by culture.

Perhaps one reason why in England our schools have not had the life and growth of the schools of Germany and Holland is to be

found in the separation, with us, of the power of the Reformation and the power of the Renascence. With us, too, the Reformation triumphed and got possession of our schools; but our leading reformers were not at the same time, like those of Germany, the nation's leading spirits in intellect and culture. In Germany the best spirits of the nation were then the reformers. In England our best spirits,—Shakspeare, Bacon, Spenser,—were men of the Renascence, not men of the Reformation, and our reformers were men of the second order. The Reformation, therefore, getting hold of the schools in England was a very different force, a force far inferior in light, resources, and prospects, to the Reformation getting hold of the schools in Germany.

But in Germany, nevertheless, as Protestant orthodoxy grew petrified like Catholic orthodoxy, and as, in consequence, Protestantism flagged and lost the powerful impulse with which it started, the school flagged also, and in the middle of the last century the classical

teaching of Germany, in spite of a few honourable names like Gesner's, Ernesti's, and Heyne's, seems to have lost all the spirit and power of the 16th century humanists, to have been sinking into a mere church appendage, and fast becoming torpid. A theological student, making his livelihood by teaching till he could get appointed to a parish, was the usual schoolmaster. 'The schools will never be better,' said their great renovator, Friedrich August Wolf, the well-known critic of Homer, 'so long as the schoolmasters are theologians by profession. A theological course in a university, with its smattering of classics, is about as good a preparation for a classical master as a course of feudal law would be.'* Wolf's coming to

* See a most interesting article on Wolf in the *North British Review* for June 1865. Not only for its account of Wolf, but for its sketch of the movement in the higher education of Germany at a very critical time, this article well deserves studying; and having been obliged to make myself acquainted with many of the matters which its writer (Mr. Pattison) touches, I may perhaps be allowed, without appearing guilty of presumption, to add that it seems to me as trustworthy as it is interesting.

Halle in 1783, invited by Von Zedlitz, the Minister for Public Worship under Frederick the Great, a sovereign whose civil projects and labours were not less active and remarkable than his military, marks an era from which the classical schools of Germany, reviving the dormant spark planted in them by the Renascence, awoke to a new life, which, since the beginning of this century, has drawn the eyes of all students of intellectual progress upon them.

Prussia was the scene of Wolf's labours, and the Prussian schools, both from their own excellence and from the preponderating importance of Prussia at the present time, are naturally the first in Germany to attract the observer's attention.

As a rule, the secondary schools of Northern and Central Germany are better than those of Southern, and those of Protestant Germany better than those of Catholic. This will hardly be disputed; yet the school system all through Germany is in its main features much the

same, and is, in its completeness and carefulness, such as to excite a foreigner's admiration. In Austria this excellent school system is not wanting; what is wanting there is the life, power, and faith in its own operations which animate it in other parts of Germany. Nowhere has it this life and faith more than in Prussia. It has them, indeed, in other and smaller German territories as well; a Prussian will himself readily admit that the schools of Frankfort,* or of the kingdom of Würtemberg, are as good as his own. But it is in countries of the scale and size of Prussia that a living and powerful school system bears the most noteworthy fruits; and it is in Prussia, therefore, that I now proceed to trace them.

* This was written before Frankfort became Prussian. Prussia now of course, stands for Germany in a degree, even, beyond what could have been anticipated when the above was written.

CHAPTER II.

PRESENT ORGANISATION OF THE SECONDARY OR HIGHER SCHOOLS IN PRUSSIA.

Higher Schools of Prussia—Gymnasien—Progymnasien—Realschulen—Höhere Bürgerschulen—Vorschulen, or Preparatory Schools—Numbers of Teachers and Scholars.

THE schools with which we are concerned, the secondary schools as the French call them, the higher schools (*höhere Schulen*) as the Germans call them, are in Prussia thus classed: Gymnasiums, Progymnasiums, Real Schools, Upper Burgher Schools (*Gymnasien*, *Progymnasien*, *Realschulen*, *höhere Bürgerschulen*). Above these are the universities, below them the primary or elementary schools.*

* The middle school (*Mittelschule*), variously called *Stadtschule*,

At the head of these secondary schools, and directly leading to the universities, are the *Gymnasien*. The uniform employment of this term *Gymnasium* to designate them, dates from a government instruction of 1812. Before this they were variously called by the names of Gymnasium, Lyceum, Pædagogium, College, Latin School, and others.

A gymnasium has properly six classes, counted upwards from the sixth, the lowest, to the first (*prima*), the highest. But, in fact in all large schools the classes have an upper part and a lower part, and each part has, if necessary, two parallel groups (*cœtus*). The sixth and fifth classes form the lower division of the school, the fourth and third the middle division, the second and first the upper division. In former times the *Fachsystem*, or system by which the pupil was in different classes for the different branches of his instruction, was pre-

Bürgerschule, *Rectoratschule*, is in truth only an elementary school of a higher grade, and in France is called *école élémentaire supérieure*; in Switzerland, *höhere Volkschule*, *Secundarschule*.

valent; since 1820 this system has been gradually superseded by the *Classensystem*, which keeps the pupil in the same class for all his work. The course in each of the three lower classes is of one year, in each of the three higher of two years, making nine in all; it being calculated that a boy should enter the gymnasium when he is nine or ten years old, and leave it for the university when he is eighteen or nineteen.

The *Lehrplan*, or plan of work, is fixed for all *Gymnasien* by ministerial authority, as in France and Italy. It is far, however, from being a series of detailed programmes as in those countries. What it does is to fix the matters of instruction, the number of hours to be allotted to them, the gradual development of them from the bottom of the school to the top. Within the limits of the general organisation of study thus established, great freedom is left to the teacher, and great variety is to be found in practice.

Some years ago the hours of work were 32 in

the week. This was found too much, and since 1856, in the lowest class of a gymnasium there are 28 hours of regular school work in the week; in the five higher classes there are 30 hours. The school hours are in the morning from 7 to about 11 in summer, from 8 to about 12 in winter; in the afternoon they are from 2 to 4 all the year round. As in France, there is but one half-holiday in the week, and it is in the middle of the week.

Latin has ten hours a week given to it in all five classes below *prima*, and eight in *prima*. Greek begins in *quarta*, and thenceforward has six hours a week in each class, by which the reader will at once see that we are no longer in France or Italy, but in a country whose schools treat the study of Greek as seriously as the best schools among ourselves. The mother tongue (and here we quit the practice of English schools) has two hours a week in all classes below *prima*, and three in *prima*. But in the two lowest classes it is always taught in connection with Latin and by the same teacher,

and time may, if necessary, be taken from Latin to give to it. Arithmetic or mathematics have four hours a week in *secunda* and *prima*, three in *quinta*, *quarta*, and *tertia*, and four again in the lowest class. French begins in *quinta*, and is the only modern language except their own which the boys learn as part of the regular school work; it has three hours a week in *quinta*, and two in all the classes above. Many gymnasiums offer their pupils the opportunity of learning English or Italian, but as an extra matter. Geography and history have two hours a week in *sexta* and *quinta*, and thenceforward three hours. The natural sciences get two hours in *prima* and one in *secunda;* in the rest of the school they are the most movable part of the work, the school authorities having it in their power to take time from them to give to arithmetic, geography, and history, or to add time to them in places where there is no *Realschule* and the boys in the middle of the gymnasium wish to study the natural sciences in preference to Greek. Drawing is a part of

the regular school work in the three lower classes of the school, and has two hours a week. *Sexta* and *quinta* have three hours a week of the writing master.

Every class has religious instruction; *sexta* and *quinta* for three hours a week, the four higher classes for two. All the boys learn singing and gymnastics, and all who are destined for the theological faculty at the university learn in *secunda* and *prima* Hebrew; but these three matters do not come into the regular school hours.

I have said that in places where there is no *Realschule,* boys in the middle division of a gymnasium may substitute other studies for that of Greek. Where there is a *Realschule* accessible, this is not permitted; and in the upper division of a gymnasium it is nowhere permitted. In general, the gymnasium is steadily to regard the *allgemeine wissenschaftliche Bildung* of the pupil, the formation of his mind and of his powers of knowledge, without prematurely taking thought for the practical ap-

plicability of what he studies. It is expressly forbidden to give this practical or professional turn to the studies of a pupil in the highest forms of a gymnasium, even when he is destined for the army.

Progymnasiums are merely gymnasiums without their higher classes. Most progymnasiums have the lower and middle divisions of a gymnasium, four classes; some have only the lower divisions and half of the middle, three classes; some, again, have all the classes except *prima*. The progymnasium follows, so far as it has the same classes, the *Lehrplan* of the gymnasium. In the small towns, where it is not possible to maintain at once a progymnasium and a *Realschule*, the progymnasium has often parallel classes for classical and for non-classical studies. But, in general, the tendency within the last five years has been for the progymnasium to develope itself into the full gymnasium, and when I was at Berlin Dr. Wiese, a member of the Council of Education there, to whom I am indebted for much valu-

able assistance,* pointed out to me on the map a number of places, scattered all about the Prussian dominions, where this process was either just completed or still going on.

To reform the old methods of teaching the classics, to reduce their preponderance, to make school studies bear more directly upon the wants of practical life, and to aim at imparting what is called 'useful knowledge,' were projects not unknown to the seventeenth and eighteenth century as well as to ours. Comenius, a Moravian by birth, who in 1641 was invited to England in order to remodel the schools here, and in the following century Rousseau in France and Basedow in Germany, promulgated, with various degrees of notoriety and success, various schemes with one or other of these objects. The Philanthropinum of Dessau, an institution established in pursuance of them,

* Dr. Wiese has written an interesting work on the English public schools; but his book on those of Prussia, *Das höhere Schulwesen in Preussen*, Berlin, 1864 (pp. 740), is a mine of the fullest, most authentic information on the subject of which it treats, and is indispensable for all who have to study this closely.

was an experiment which made much noise in its day. It was broken up about 1780, but its impulse and the ideas which set this impulse in motion, continued, and bear fruit in the *Realschulen*. The name *Realschule* was first used at Halle ; a school with that title was established there by Christoph Semler, in 1738. This *Realschule* did not last long, but it was followed by others in different parts of the country. They took a long time to hit their right line and to succeed ; it is said to be only from 1822 that the first really good specimen dates. This one was at Berlin, and though it did not begin to work thoroughly well till 1822, it had been founded in 1747, and had been in existence ever since that time. Its founder's name was Johann Hecker, who was a Berlin parish-clergyman. The Government began to occupy itself with the *Realschulen* in 1832, and as the growth of industry and the spread of the modern spirit gave them more and more importance, a definite plan and course had to be framed for them, as for the *Gymnasien*. This

was done in 1859.* *Realschulen* were distinguished as of three kinds; *Realschulen* of the first rank, *Realschulen* of the second rank, and higher Burgher Schools. For *Realschulen* of the first rank the number and system of classes was the same as that for the *Gymnasien;* the full course was of nine years. The *Lehrplan* fixes a rather greater number of hours of school work for them than the *Gymnasien* have; 30 for the lowest class, 31 for the class next above, 32 for each of the four others.

All three kinds of *Realschulen* are for boys destined to callings for which university studies are not required. But Latin is still obligatory in *Realschulen* of the first rank, and in the three lower classes of these schools it has more time allotted to it than any other subject. In the highest class it comes to its minimum of time, three hours; and in this class, and in *secunda*, the time given to mathematics and the natural sciences amounts altogether to eleven hours a

* By the *Unterrichts- und Prüfungsordnung für die Realschulen und die höheren Bürgerschulen* of the 6th of October in that year.

week. As the *Realschule* leads, not to the university, but to business, English becomes obligatory in it as well as French. French, however, has most time allotted to it. Religious instruction has the same number of hours here as in the *Gymnasien*. Drawing, which in the *Gymnasien* ceases after *quarta* to be a part of the regular school work, has in the *Realschule* two hours a week in each of the five classes below *prima*, and three in *prima*.

It is found that after *quarta*, that is, after three years of school, many of the *Realschule* boys leave; and an attempt is therefore made to render the first three years' course as substantial and as complete in itself as possible.

The *Realschulen* of the second rank have the six classes of those of the first; but they are distinguished from them by not having Latin made obligatory, by being free to make their course a seven years' course instead of a nine, and, in general, by being allowed a considerable latitude in varying their arrangements to meet special local wants. A *general*, not professional,

mental training, is still the aim of the *Realschule* of the first rank, in spite of its not preparing for the university. A lower grade of this training, with an admixture of directly practical and professional aims, satisfies the *Realschule* of the second rank.

Where a gymnasium and a *Realschule* are united in a single establishment, under one direction, the classes *sexta* and *quinta* may be common to both, but above *quinta* the classes must be separate.

The term *Bürgerschule* was long used interchangeably with that of *Realschule*. The regulations of 1859 have assigned the name of higher Burgher School to that third class of *Realschulen*, which has not the complete system of six forms that the *Gymnasien* and the other two kinds of *Realschulen* have. The higher Burgher School stands, therefore, to the *Realschule* in the same relation in which the *Progymnasium* stands to the *Gymnasium*. Some Burgher Schools have as many as five classes, only lacking *prima*. The very name of the

Bürgerschulen indicates that in the predominance of a local and a municipal character, and in the smaller share given to classics, they follow the line of the *Realschulen* of the second order. Still Latin has three or four hours a week in all the best of these schools. They are, however, the least classical of all the higher schools; but several of them, in small places where there cannot be two schools, have gymnasial classes parallel with the *real* classes just as certain *Gymnasien*, in like circumstances, have *real* classes parallel with their classical classes.

As the elementary schools pursue a course of teaching which is not specially designed as a preparation for the higher schools, it has become a common practice to establish *Vorschulen*, or preparatory schools, as in France, to be appendages of the several higher schools, to receive little boys without the previous examination in reading, writing, arithmetic, grammar and Scripture history, which the higher school imposes, and to pass them on in their tenth

year, duly prepared, into the higher school. These *Vorschulen* have in general two classes.

These are the higher or secondary schools of Prussia. Before the Austrian war, the population of Prussia was 18,476,500. The latest complete school returns are those for the year 1863. In 1863, Prussia possessed 255 higher schools, with 3,349 teachers in them, and 66,135 scholars. She had 84 *Vorschulen*, or public preparatory schools, with 188 teachers, and 8,027 scholars. Of the 255 higher schools, 172 were classical schools, gymnasiums or progymnasiums, with 45,403 scholars; 83 were non-classical schools, belonging to one or other of the three orders of *Realschulen*, with 20,732 scholars.

All these schools have a public character, are subject to State inspection, must bring their accounts to be audited by a public functionary, and can have no masters whose qualifications have not been strictly and publicly tried. We find in the year 1865, I will not say in the public schools of England, but in all the schools

which by any straining or indulgence can possibly be made to bear that title, 15,880 scholars. In the public higher schools and preparatory schools of Prussia we find 74,162 scholars.

I will not now press this comparison, but will pass on to show in what way the higher schools of Prussia have a public character.

CHAPTER III.

GOVERNMENT AND PATRONAGE OF THE PRUSSIAN PUBLIC SCHOOLS.

Common Law of Prussia—State-action and Regulation—Origin and History of the Central Education Department — Origin and History of the Provincial School Authorities—Provincial School Boards and District School Boards—Examining Commissions—Local and Municipal School Authorities—Endowments and Charities; their Management—Patronage of Schools.

THERE is no organic school-law in Prussia like the organic school-law of France, though sketches and projects of such a law have more than once been prepared. But at present the public control of the higher schools is exercised through administrative orders and instructions, like the minutes of our Committee of Council on Education. But the administrative autho-

rity has in Prussia a very different basis for its operations from that which it has in England, and a much firmer one. It has for its basis these articles of the *Allgemeine Landrecht*, or common law of Prussia, which was drawn up in writing in Frederick the Great's reign, and promulgated in 1794, in the reign of his successor :—

'Schools and universities are State institutions, having for their object the instruction of youth in useful information and scientific knowledge.

'Such establishments are to be instituted only with the State's previous knowledge and consent.

'All public schools and public establishments of education are under the State's supervision, and must at all times submit themselves to its examinations and inspections.

'Whenever the appointment of teachers is not by virtue of the foundation or of a special privilege vested in certain persons or corporations, it belongs to the State.

'Even where the immediate supervision of such schools and the appointment of their

teachers is committed to certain private persons or corporations, new teachers cannot be appointed, and important changes in the constitution and teaching of the school cannot be adopted, without the previous knowledge or consent of the provincial school authorities.

'The teachers in the gymnasiums and other higher schools have the character of State functionaries.'

To the same effect the Prussian Deed of Constitution (*Verfassungs-Urkunde*) of 1850 has the following:—

'For the education of the young sufficient provision is to be made by means of public schools.

'Every one is free to impart instruction, and to found and to conduct establishments for instruction, when he has proved to the satisfaction of the proper State authorities that he has the moral, scientific, and technical qualifications requisite.

'All public and private establishments are under the supervision of authorities named by the State.'

With these principles to serve as a basis, administrative control can be exercised without much difficulty. These principles, however, may with real truth be said to form part of the common law of Prussia, for they form part of almost every Prussian citizen's notions of what is right and fitting in school concerns. It would be a mistake to suppose that the State in Prussia shows a grasping and centralising spirit in dealing with education; on the contrary, it makes the administration of it as local as it possibly can; but it takes care that education shall not be left to the chapter of accidents.

Up to the middle of the last century, however, the higher schools were so far left to this chapter of accidents, that the State practised little or no interference with the free action of patrons. But it is important to observe that the State was always, in Prussia, an important school patron itself, and exercised its rights of patronage, while in England these rights slipped from its hands.

Royal foundations for schools are in Prussia very numerous, and in all Prussian schools of royal foundation the patronage remains vested in the Crown till this day. Schools like Eton and Westminster, like King Edward's School at Birmingham, like the grammar schools of Sherborne, of Bury St. Edmund's, and so many others, would have been in Prussia 'Crown patronage schools,' with a public, responsible, disinterested authority nominating their masters. So far, therefore, even without any assertion of the right of the State to control private patrons, the higher schools of Prussia have a security which ours have not. The assertion of such a State right, beyond the mere rights of the Crown as a patron, appears in the reign of Friedrich Wilhelm I., and gains definiteness and purpose from that time forth. The *General-Directorium* created by this sovereign, in 1722, was a ministerial body with a department for spiritualities (*Geistliches Departement*) to which the exercise of the Crown rights of control over churches

and schools were entrusted. This department was in a few years attached to that of the Minister of Justice, and as such it was held by an able minister, formed in Frederick the Great's school, Von Zedlitz, who in 1787 separated the church and school affairs of the *Geistliches Departement*, and committed the school affairs to a High Board of Schools (*Ober-Schulcollegium*). In the great movement of reconstruction which between 1806 and 1812 renewed the civil and military organisation of Prussia, the Board of Schools was abolished, and the Education Department was made, in 1808, a section of the Home Office. Wilhelm von Humboldt was placed at its head.* Finally, in 1817, this Education section became an independent ministerial department, and its chief took the title of Minister for Spiritualities and Education (*Minister der Geistlichen- und Unterrichtsangelegenheiten*). The first minister was

* In June, 1810, Wilhelm von Humboldt went as Prussian envoy to Vienna, and the rest of his public life was chiefly passed, as is well known, in the diplomatic service of his country.

Freiherr von Altenstein. Medicine having been added to the affairs over which this department has supervision, the minister's full style now is *Minister der Geistlichen- Unterrichts- und Medicinal-angelegenheiten.*

When the Education Department was made a section of the Home Office, Wilhelm von Humboldt had two functionaries with the title of *technische Räthe*, technical counsellors, placed with him. These *technische Räthe* have now grown into eight, and they, with the Minister and the under Secretary of State for the department, constitute the central authority for the affairs of education.

But in Prussia it is not the central minister who has the most direct and important action on the schools, it is the authorities representing the State in the several parts of the country. It is from Wilhelm von Humboldt's accession to office in 1808 that the establishment of a fruitful relation between these two authorities, the schools and the central power, really dates. Before that time, in accordance with the notions

which closely connected the School with the Church, the provincial authorities with an action upon the schools were the consistories. These were, indeed, State authorities, for their members are named by the Crown, or head of the State; the head of the State being in Prussia far more practically than in England the head of the Church also, inasmuch as in Prussia the Crown is actually *summus episcopus;* the powers of supervision and discipline vested of old in the bishops, and in England, where we have kept our bishops, still vested in them, having gone, in Protestant Germany, straight to the Crown. The Crown as *summus episcopus* exercises its rights through consistories, and the members of the consistories are in consequence nominees of the State. The consistories therefore supplied a provincial State authority for dealing with schools. But the employment of them for this purpose had two evident administrative inconconveniences, to say nothing of other objections to it. In the first place, the consistories were in relation at the centre of Government not

with the Education Department but with the High Consistory. In the second place, it is only as a Protestant sovereign that the King of Prussia is head of the Church and represented throughout the country by consistories. As a Catholic sovereign he is not head of the Church, and has in the provinces no consistory or ecclesiastical authority which is also a State authority. But Prussia has nearly seven millions of Catholic subjects. For Catholic schools, therefore, as well as for Protestant, a provincial State authority was required, and this authority the consistory could not supply.

The administration of 1808 established in each of the *Regierungen*, or governmental districts, into which Prussia was divided, a deputation for worship and public instruction (*Deputation für Cultus und öffentlichen Unterricht.*) These deputations were in immediate connexion with the Education Department at Berlin; they represented, in the supervision of the schools in the provinces, the State authority, and exercised for the most part the Crown patronage.

In 1810 were added three Scientific Deputations (*Wissenschaftliche Deputationen*), one at Berlin, one at Königsberg, one at Breslau, to examine teachers for the secondary schools and to advise the Government on all important matters relating to these. The Berlin deputation had for its members the two *technische Räthe* of the Education Department, Süvern and Nicolovius, and besides these, Ancillon, Friedrich August Wolf, and Schleiermacher. The English reader will observe the sort of persons who in Prussia were chosen for the management, at a critical moment, of the State's relations with education.

The higher schools of Prussia feel to this day the benefits of that management. Variations took place in the organisation of the provincial authority, as the different divisions of the Prussian monarchy were constituted afresh, but its general character remained the same, and has remained so till this day. Prussia is now divided into eight provinces,* and these

* I speak throughout of Prussia as she was before her late war with Austria.

eight provinces are again divided into twenty-six governmental districts, or *Regierungen*. There is a Provincial School Board (*Provinzial-Schulcollegium*) in the chief town of each of the eight provinces, and a Governmental District Board in that of each of the twenty-six *Regierungen*. In general, the State's relations with the higher class of secondary schools are exercised through the Provincial Board; its relations with the lower class of them, and with the primary schools, through the District Board. In Berlin, the relations with these also are managed by the Provincial Board. A *Provinzial-Schulcollegium* has for its president the High President of the province; for its director the vice-president of that governmental district which happens to have for its centre the provincial capital. The Board has two or three other members, of whom, in general, one is a Catholic and one is a Protestant; and one is always a man practically conversant with school matters. The District Board has in the provincial capitals the same president and director

as the Provincial Board; in the other centres of *Regierungen* it has for its president the President of the *Regierung*, and three or four members selected on the same principle as the members of the Provincial Board.

The provincial State authority, therefore, is, in general, for gymnasiums, the larger progymnasiums, and *Realschulen* of the first rank, the Provincial School Board; for the smaller progymnasiums, *Realschulen* of the second rank, the higher Burgher Schools, and the primary schools of all kinds, the Governmental District Board. Both boards are in continual communication with the Education Minister at Berlin, and every two or three years they have to draw up for him a general report on the school affairs of their province or district.

The Scientific Deputations are now replaced by seven Examination Commissions (*Wissenschaftliche Prüfungscommissionen*).* The most

* The seats of these seven Commissions are the towns of Berlin, Königsberg, Breslau, Halle, Münster, Bonn, and Greifswald. These towns are also the seats of the Prussian universities.

important business of these Commissions being to examine teachers for the secondary schools, they have seven members, one for each of the main subjects in which teachers are examined,— philology, history, mathematics, pædagogy, theology, and the natural sciences. These Commissions report to the Minister every year.

Besides the central and provincial administration there is a local or municipal administration for schools that are not Crown patronage schools. Matters of teaching and discipline, —*interna* as they are called,—do not in any public schools, even when their patrons are municipalities or private persons, come within the jurisdiction of the local authority; they are referred to the provincial and district boards. The local authority administers *externa*,—that is, it manages the school property, fixes the school fees, gives free admissions to poor scholars, and the like; and it nominates, when the patronage is private or municipal, the teacher; but for his confirmation recourse must

be had to the State authority, provincial or central. Thus, if local or municipal patrons chose to appoint a master who had not got his certificate from one of the Examination Commissions, the appointment would be quashed. In most towns the local authority for schools of municipal patronage is the town magistracy, assisted by a *Stadtschulrath;* sometimes the local authority is a *Curatorium* or *Schulcommission.* To take one case as a specimen. The two town gymnasiums at Breslau are under a *Curatorium*, of which the composition is as follows: a member of the magistracy (who must be a lawyer), president; two members chosen by the representative body of the commune, and the rectors of the two gymnasiums. This body draws up the school estimate, of which presently; looks after the administration of the school property, sees that the school premises are kept in order and properly supplied with what they want, represents the town at the leaving examinations, or other public solemnities in which the gymnasiums are concerned, has a consultative voice

as to any change in the mode of regulating the free admissions, receives from the rector, when he and the majority of the masters are agreed on a boy's expulsion, notice that a boy has been expelled, with the grounds for it; if the rector and a majority of his *Lehrercollegium* differ as to the propriety of expelling, the *Curatorium* decides. It is not the *Curatorium* that nominates the masters, but the town magistracy, subject to approval by the proper State authority. The teaching and all that relates to it are in each gymnasium under the rector's control, who is responsible on this head to the Provincial Board and not to the *Curatorium*.

In cases where the Crown has had a share in endowing a school, or has made a grant to it, it acquires joint rights of patronage with the local patrons, and for the exercise of these rights it is represented by a commissioner, who is always, as such, a member of the *Curatorium*.

Only a few Prussian schools, such as those of Schulpforta and Rossleben, or the Joachimsthal School at Berlin, have so large an endow-

ment that it can fully support them. But a very large number have endowments of some sort, or else grants from some school charity or other, such as the *Marienstift* at Stettin for schools in Pomerania, the *Sacksche Stiftung* in Silesia for schools in the principalities of Glogau, Wohlau, and Liegnitz, and many other such foundations. The Provincial or District Boards supervise the *externa*, the property concerns, as well as the *interna*, the teaching concerns, of all schools of Crown patronage; but by the Prussian law, wherever there is an endowment, there is a public right to see that this endowment is properly employed; so that there is a public control for the management of all endowments of private as well as of Crown patronage. The school appoints a man of business (*Rendant, Rechnungsführer*) charged with the financial administration (*Cassenführung*) of the school; the authority in whom the patronage of the school is vested (*Patronatsbehörde*) draws out a school estimate (*Schul-Etat*) every three years, showing in detail the school's in-

come, actual and estimated, for the three years about to commence, and its estimated expenditure. In every government district, or *Regierung*, there is a public functionary whose business it is to review these estimates, and who addresses to the *Rendant* his remarks and requirements (*Revisionserinnerungen*, *Revisionsforschungen*), which the *Rendant* has to lay before the *Patronatsbehörde*, whatever this may be, *Curatorium*, *Schulcommission*, etc., and to which this authority must pay attention. An abusive application of trust funds, or of grants from a charity, is thus checked: all expenses not in the estimate have to be accounted for, and all improper expenses are disallowed. The local patrons can only resist by applying to the administrative authority next above that which has dealt with them (*vorgesetzte Instanz*), and this appeal they will never make when they know they have a bad case.

The State has part in the patronage of more than half of the secondary schools in Prussia; in 72 of them as absolute patron, in 74 of them

as part patron. The immense majority of the schools of which it is absolute patron belong to the category of *Gymnasien*, the highest and most expensive class of secondary schools. There were, in 1864,* 145 gymnasien in Prussia; of 65 of these the Crown had the exclusive patronage. At the same date there were 28 *Progymnasien*, 49 *Realschulen* of the first rank, 16 of the second, and 21 higher Burgher Schools. Of only seven of these had the Crown the exclusive patronage; of three progymnasiums, two *Realschulen* of the first rank, one of the second, and one higher Burgher School. Under municipal patronage were 26 gymnasiums, 11 progymnasiums, 35 *Realschulen* of the first rank, 10 of the second, and 13 higher Burgher Schools. The municipalities thus show that leaning towards *real* instruction which might be expected from them; of the 49 *Realschulen* of the first rank they have 35.

* A year later than the year for which I had complete returns, and for which I gave, as the total of Prussian higher schools open in that year, 255. In 1864 there were 259.

What is most striking to an Englishman is the small number of public schools under patronage neither royal nor municipal, but under the patronage of some church, or corporation, or private person; there are but 12 of them altogether, five *Gymnasien*, two *Progymnasien*, one *Realschule* of the first order, and four higher Burgher Schools. The question therefore as to the rights and interests of private patrons of public schools does not take, so far as the number of their school goes, very important dimensions. The total expenditure on the higher schools and their *Vorschulen* was, in 1864, 2,580,684 thalers (in round figures, about £387,100). Of this sum the scholars' fees contributed 1,193,055 thalers; the State, 526,722 thalers; the municipalities, 401,046 thalers; school property produced 384,224 thalers, and benefactions not under public administration, 75,637 thalers. The State is therefore, after the scholars themselves, the great supporter of the public schools, as well as the principal patron of them.

But the reader will ask, in what sense are the schools with private patrons to be called public schools? They are public schools because they fulfil the requirements, adopt the title and constitution, and follow the *Lehrplan* fixed by public authority for the five classes of public secondary schools, and by so doing obtain the *status* and privilege of such schools. Are there not a great many important establishments, then, the reader may next ask, which do not care to get this status, but prefer to be independent? I answer: No school in Prussia can be *independent*, in the sense of owing no account to any one for the teacher it employs, or the way in which it is conducted; because for every school there is a *verordnete Aufsichtsgewalt*, an ordained authority of supervision. But private persons are no doubt free to open establishments of their own, give them a constitution of their own, and follow a *Lehrplan* of their own. There are ten large private schools in Berlin for the class of boys who go to secondary schools;

these private schools, however, have the public schools in view, and take boys whose parents do not like to send them very young to the great public schools, classical or non-classical; but when these boys are ready for the middle divison of the public Gymnasium or *Realschule*, they pass on there. These private schools are merely preparatory schools for the public schools, and accordingly they are organised as progymnasiums and as higher Burgher Schools. They represent no anti-public-school feeling, no rival line in education. Two remarkable institutions which did not prepare for the public schools, which gave a complete course of secondary instruction of their own arranging, and which were private schools, *écoles libres*, in the full sense of the term,—the *Plamannsche Anstalt* and the *Cauersche Anstalt*,—existed at Berlin not long ago, but they exist there no longer. Experiments of the same kind are being tried elsewhere. The *Victoria Institut*, at Falkenberg, is a prominent specimen of them; it is a regular private boarding school,

charging 400 thalers (£60) a year, and it professes to give the training either of the gymnasiums or of the *Realschulen,* whichever the pupil prefers. The English generally know more of schools of this kind than of the public schools in Germany, because this kind of private school has a boarding establishment and the public schools have not, and a foreign parent generally looks out for a school with a boarding establishment. For the most part he is no judge at all of schools on their real merits; he sends his son to a foreign school that he may learn the modern languages, and the boy will learn these at a private school just as much as at a public one. But the Germans themselves undoubtedly prefer their public schools. An attendance in the public secondary schools of 74,000 pupils, in a population of 18,500,000, which is Prussia's population, shows that the Prussians prefer them. And it is the same in other German countries.

CHAPTER IV.

PREPONDERANCE OF PUBLIC SCHOOLS. THE ABITURIENTENEXAMEN.

Preference for Public Schools—The Leaving Examination (Abiturientenexamen); its History—Present Plan of the Leaving Examination in Gymnasien—Object Proposed by the Founders of the Leaving Examination—Leaving Examination in Realschulen—Examinations of Passage.

I BELIEVE that the public schools are preferred, in Prussia, on their merits. The Prussians are satisfied with them, and are proud of them, and with good reason; the schools have been intelligently planned to meet their intelligent wants. But the preponderance of the public schools is further secured by the establishment in connexion with them of the 'leaving ex-

aminations' (*Abiturientenprüfungen, Maturitäts-prüfungen, Entlassungsprüfungen, Abgangsprüfungen*), on which depends admission to the universities, to special schools (*Fachschulen*) like the *Gewerbe-Institut* or the *Bauakademie*, and to civil and military service of the State. The learned professions can only be reached through the universities, so the access to these professions depends on the leaving examination. The pupils of private tutors or private schools can present themselves for this examination; but it is held at the public schools, it turns upon the studies of the upper forms of the public schools, and it is conducted in great part by their teachers. A public schoolboy undoubtedly presents himself for it with an advantage; and its object undoubtedly is, not the illusory one of an examination-test as in our public service it is employed, but the sound one of ensuring as far as possible that a youth shall pass a certain number of years under the best school-teaching of his country. This really trains him, which the mere application of an examination-test

does not; but an examination-test is wisely used in conjunction with this training, to take care that a youth has really profited by it. No nation that did not honestly feel it had made its public secondary schools the best places of training for its middle and upper classes, could institute the leaving examination I am going to describe; but Prussia has a right to feel that she has made hers this, and therefore she had a right to institute this examination. It forms an all-important part of the secondary instruction of that country, and I hope the reader will give me his attention while I describe it.

Before 1788 admission to the Prussian universities was a very easy affair. You went to the dean of the faculty in which you wished to study; you generally brought with you a letter of recommendation from the school you left; the dean asked you a few questions and ascertained that you knew Latin; then you were matriculated. The *Ober-Schulcollegium*, which was in 1788 the authority at the head of Prussian public instruction, perceiving that

from the insufficiency of the entrance examination the universities were cumbered with unprepared and idle students, determined to try and cure this state of things. In December of that year a royal edict was issued to the public schools and universities directing that the public schools should make their boys undergo an examination before they proceeded to the university; and that the universities should make the boys who came up to them from private schools undergo an examination corresponding to that of the public schoolboys. Every one who underwent the examination was to receive a certificate of his ripeness or unripeness for univerity studies (*Zeugniss der Reife, Zeugniss der Unreife*). The candidates declared to be unripe might still enter the university if their parents chose; but it was hoped that, guided by this test, their parents would keep them at school till they were properly prepared, or else send them into some other line. No plan of examination was prescribed, but the certificate was to record, under the two heads

of *languages* and *sciences*, the candidate's proficiency in each of these matters.

The *Allgemeine Landrecht*, promulgated in 1794, after complaints had been rife that the universities had still a number of unprofitable students, and that young men went there merely to escape military service, made yet stricter regulations. It ordered the examination held at the university for boys coming from private schools to be conducted by a Commission; and it forbade the matriculation of any one who did not obtain a certificate of his ripeness.

But the omitting to prescribe a definite plan for the examination, and the entrusting them to two different bodies, the schools and the universities, caused the intentions of the Government to be in great measure frustrated. There was no uniform standard of examination. The schools made the standard high, the universities made it low; and numbers of young men, leaving the public schools without undergoing the *Abiturientenexamen* there, waited a little while, and then presented themselves to

be examined at the university, where the examination was notoriously much laxer than at the school.

The great epoch of reform for the higher schools of Prussia is Wilhelm von Humboldt's year and a half at the head of the Education Department. The first words of a memorandum of this date on a proposal not to require Greek except of students for orders: "Es ist nicht darum zu thun, dass Schulen und Universitäten in einem trägen und kraftlosen Gewohnheitsgange blieben, sondern darum, dass durch sie die Bildung der Nation auf eine immer höhere Stufe gebracht werde,*— might be taken as a motto for his whole administration of public instruction. It was Wilhelm von Humboldt who took the most important step towards making the *Abiturientenprüfung* what it now is. He was the originator of a uniform plan of examination obligatory

* 'The thing is *not*, to let the schools and universities go on in a drowsy and impotent routine; the thing is, to raise the culture of the nation ever higher and higher by their means.'

on all who examined candidates for entrance to the university. Schleiermacher, who, as I have said, was a member of the Education Council, wished to take away this examination from the universities, and to give it entirely to the schools. This was not done, but the course of examination was strictly defined, and a form of certificate, fully indicating its results, was prescribed. The certificate was of three grades; No. 1 declared its possessor to be thoroughly qualified for the university; No. 2 declared him to be partially qualified; No. 3 to be unqualified (*untüchtig*). But this plan of reform, which was brought into operation in 1812, could not produce its due fruits so long as the double examination was maintained. After the peace of 1815 there was a great flow of students to the universities; many of them were very ill prepared; but the universities, with the natural desire to get as many students as possible, eased the examinations to them as much as they could, and admitted the holders of any certificate at all, even of No. 3, to matriculation. At Bonn, in 1822, out of 139 certificates

for that year, 122 were of No. 3, declaring the holder unqualified for the University; 16 were of No. 2, declaring him partially qualified; only one was of No. 1, declaring him thoroughly qualified. The Provincial School Boards reported to the minister that the efforts of the schools were frustrated by the laxity of the university commissions, which got more and more candidates. The schools in their turn were inclined to make the first grade of certificate a reward of severe competitive examination, which was by no means what those who instituted it intended. The admission to the universities of young men declared to be unqualified, the two kinds of examining bodies with differing views and standards, and the threefold grade of certificate, were found fatal obstacles to the successful working of the reform of 1812.

All three obstacles have been removed. The regulations at present in force date from 1834 and 1856.* The leaving examination is now

* *Réglement vom* 4 *Juni* 1834, completed by *Verfügung vom* 12 *Jan.* 1856.

held at the *Gymnasien* only. The threefold grade of certificate is abolished, and the candidate is, as in old times, certified to be *reif* or *unreif*. No one, as a general rule, can without a certificate attend university lectures at all; and no one without a certificate of ripeness can be regularly matriculated in any faculty. The examining body is thus composed: the director of the gymnasium and the professors who teach in *prima;* a representative of the *Schul-Curatorium*, where the gymnasium has a *Curatorium;* the Crown's *Compatronats Commissarius* (joint patronage commissary) where there is one; and a member or delegate of the Provincial School Board. The representative of the Provincial School Board is always president of the examining commission. The *Abiturient*, or leaving boy, must have been two years in *prima*. The examination work is to be of the same pitch as the regular work of this class, though it must not contain passages that have been actually done in school. But neither, on the other hand, must it be such as to require

any *specielle Vorstudien*. It embraces the mother tongue, Latin, Greek, and French; mathematics and physics, geography, history, and divinity. An *Abiturient* who is going to enter the theological faculty at the university is examined in Hebrew. The examination is both by writing and *vivâ voce*. The paper work lasts a week,* and the candidate who fails in it is not tried *vivâ voce*. The examination papers are prepared by the director and teachers, but several sets have to be in readiness, and the president of the examining commission, who represents the Provincial School Board and the State, chooses each paper as it is to be given out. He also, at the *vivâ voce* examination, chooses the passages if he likes, and himself

* Specimens of the subjects set for the German and Latin essay at these examinations are the following. For the German essay:—'How did Athens come to be the centre of the intellectual life of Greece?'—'From Goethe's *Götz von Berlichingen* draw out a picture of the social state of Germany at the time in which the action of the play is laid.' For the Latin essay:—"P. Clodio, cum, ut Ciceronem in exilium ejiceret, in animum induxisset, quæ res fuerint adjumento?—Hannibal quibus de causis, quod sibi proposuerat, Italiam subigere, non potuit?"

puts any question he may think proper. The Provincial School Board have at any time the power to direct that the same examination papers shall be used for all the gymnasiums of the province. Each performance is marked *insufficient*, *sufficient*, *good*, or *excellent*, and no other terms, and no qualifications of these, are admitted. A candidate who is fully up to the mark in the mother tongue and in Latin, and considerably above it either in classics or mathematics, is declared *reif*,—passes,—though he may fall below it in other things. If the commission are not unanimous about passing a candidate, they vote; the youngest member voting first and the president last. If the votes are equal the president has a casting vote. But the president may refuse to pass a candidate though the majority have voted for him. In this case, however, the candidate's papers must go to the highest examining authority, the *Wissenschaftliche Prüfungscommission* in whose district the province is, for their decision upon them. To this same High Commission all the

papers of half the gymnasiums of each province are each half year referred for their remarks; their remarks, if they have any to make, are addressed by them to the Provincial School Board, and by the Provincial School Board transmitted to the gymnasiums concerned.

The examination takes place about six weeks before the end of the half. The certificates are given out to the successful candidates at the solemnity* which takes place in the *Aula* of a German public school at the end of a half year, or *Semester*. Each member of the examining commission signs the certificate, which, besides defining the candidate's proficiency in each of the matters of examination, has three additional rubrics for *conduct, dili-*

* At this solemnity a dissertation is read by the director or one of the professors, and every European student knows how much valuable matter has appeared in these dissertations. I have before me the dissertations held in the last year or two at several of the schools I visited. The following are specimens of their subjects:—"De Sallustii dicendi genere commentatio.—Criticarum scriptionum specimen.—Der Prediger Salomo.—Die Erziehung für den Staatsdienst bei den Athenern.—Untersuchungen über die Cissoide (mathematische Abhandlung)."

gence, and *attainments*, which are filled up by the school authorities as he deserves.

The candidate who is considered *unreif*, and not passed, is recommended, according to his examination and his previous school career, either to stay another half-year at school and then try again, or to give up his intention of going to the university. If he still persists in going there at once, he may; but he must carry with him a certificate of his present unfitness (*Zeugniss der Nichtreife*), a certificate with the same rubrics as the other, and signed in the same way. With this certificate, he holds an exceptional, incomplete position at the university; he cannot enter himself in any faculty except that of philosophy, and then he is entered in a special register, and not regularly matriculated. He can, therefore, attend lectures; but his time does not count for a degree, and he can hold no public benefice or exhibition. He may be examined once more, and only once, going to a gymnasium for that purpose; the three or four years' course re-

quired in the faculty which he follows only begins to count from the time when he passes.

The reader will recollect that for the learned professions,—the church, the law, and medicine,—and for the post of teachers in the high schools and universities, it is necessary to have gone regularly through the university course and to have graduated.

Candidates who have not been at a public school, but who wish to enter the university, must apply to the Provincial School Board of their province for leave to attend a certificate examination. They have to bring testimonials, and a *curriculum vitæ* written by themselves in German, and are then directed by the school board to a gymnasium where they may be examined. They have to pay an examination fee of ten thalers. If they fail, the examining commission of the gymnasium is empowered to fix a time within which they may not try again, and they may only try twice. They may, however, if they fail to pass, go up to

the university on the same condition as the public schoolboys who fail. These *externi*, as they are called, are not examined along with the *Abiturienten* of the gymnasium, though they are examined by the same examining commission; but the boys who come from private instruction are by the minister's directions to have allowance made for their not being examined by their own teachers, and, so far, to be more leniently treated in the examination than the *Abiturienten*. On the other hand, boys who have been at a gymnasium and who have left in order to prepare themselves with a private tutor, are not entitled to any special indulgence. Indeed a public school boy, who, to evade the rule requiring two years in *prima*, leaves the gymnasium in *secunda*, goes to a private school or private tutor, and offers himself for examination within two years, needs a special permission from the minister in order to be examined. So well do the Prussian authorities know how insufficient an instrument for their object,—

that of promoting the national culture and filling the professions with fit men,—is the bare examination test; so averse are they to cram; so clearly do they perceive that what forms a youth, and what he should in all ways be induced to acquire, is the orderly development of his faculties under good and trained teaching.

With this view, all the instructions for the examination are drawn up. It is to tempt candidates to no special preparation and effort, but to be such as 'a scholar of fair ability and proper diligence may at the end of his school course come to with a quiet mind, and without a painful preparatory effort tending to relaxation and torpor as soon as the effort is over.' The total cultivation (*Gesammtbildung*) of the candidate is the great matter, and this is why the two years of *prima* are prescribed: 'that the instruction in this highest class may not degenerate into a preparation for the examination, that the pupil may have the requisite time to come steadily and without overhurry-

ing to the fulness of the measure of his powers and character, that he may be securely and thoroughly formed, instead of being bewildered and oppressed by a mass of information hastily heaped together.' All *tumultuarische Vorbereitung* and all stimulation of vanity and emulation is to be discouraged, and the examination, like the school, is to regard *das Wesentliche und Dauernde*—the substantial and enduring.* Accordingly, the composition and the passages for translation are great matters in German examinations, not those papers of questions by which the examiner is so led to show his want of sense, and the examinee his stores of cram.

That a boy shall have been for a certain number of years under good training is what, in Prussia, the State wants to secure; and it uses the examination test to help it to secure this. We leave his training to take its chance, and we put the examination test to a use for

* *Perverse studet qui examinibus studet*, was a favourite saying of Wolf's.

which it is quite inadequate, to try and make up for our neglect.

The same course is followed with the *Realschulen* and with the higher Burgher Schools. For entrance to the different branches of the public service, the leaving certificate of the classical school had up to 1832 been required. For certain of these branches it was determined in 1832 to accept henceforth the certificate of the *Realschule* or the higher Burgher School instead of that of the gymnasium. Different departments made their own stipulations; the Minister of Public Works, for instance, stipulated that the certificate of the candidate for the *Bauakademie* (School of Architecture) should be valid only when the candidate's *Realschule* or higher Burgher School had been one of the first class, or with the full number of six classes, and when he had passed two years in each of the two highest classes. I mention a detail of this kind to show the English reader how entirely it is the boy's school and training which the

Prussian Government thinks the great matter, and not his examination. Since 1832 the tendency has been to withdraw again from the *Realschule* certificate its validity for the higher posts in the scientific departments of the public service; for these posts, the gymnasial leaving certificate is now again required. But for a very great number of posts in the public service the certificate of the *Realschule* is still valid, and for a still greater number of posts in the pursuits of commerce and industry employers now require it. The Education Department issued in 1859 the rules by which the examination for this certificate is at present governed. They are the same, *mutatis mutandis*, with those for the *Maturitätsprüfung* at the gymnasium. The examining commission is composed in precisely the same way; the examination and the issue of the certificates follow the same course. The subjects are: divinity, the mother tongue and its literature, the translation of easy passages from Latin authors, but, in

general, no Latin writing; French and English, in translation, writing, and speaking; ancient history; the history of Germany, England, and France, for the last three centuries; geography; physics and chemistry; pure and applied mathematics; and drawing. Excellence in one subject may counterbalance shortcomings in another, but no candidate can pass who absolutely fails in any. *Externi* who want the certificate are admitted to examination on the same terms, and at the same fee, as in the *Gymnasien*. In *Realschulen* of the second rank the examination is easier than in those of the first, but the certificate has not the same value. The *Abgangsprüfung* and *Abgangszeugniss* of a higher Burgher School, again, are still more easily passed and won, but still less valuable. The *Abgangszeugniss* of a higher Burgher School entitles the holder to enter the *prima* of a first-rate *Realschule;* often a very important opening to a clever boy in a small country place, who for one year can afford to go to

a school away from home, but could not have afforded to get all his schooling there.

To the passage from the *tertia* and *secunda* of the gymnasium or of the *Realschule*, examinations are also attached, for which a certificate, if the boy leaves after passing one of them, is given, declaring his ripeness at that stage. For many subordinate employments in the civil service these certificates are accepted. To be a teacher of drawing in a public school, for instance, a certificate of ripeness for *secunda* of a gymnasium or of a first rank *Realschule* or higher Bugher School is required; this if the candidate has not been at a public school and has to be examined as an *externus*;* if he has been at a public school, the certificate of his having passed the examination out of *secunda* at a second rank *Realschule* is sufficient. One important employment of school certificates is to entitle the holder to shorter military service (*Zulassung zum einjährigen freiwilligen Militair-*

* For the examination of *externi* for this lower kind of certificate, the fee is four thalers.

dienst). Young men who volunteer to serve for one year, arming and clothing themselves, the term of military service to be then at an end, must, to be accepted, produce a certificate of a certain value, either from a gymnasium or a *Realschule*.

It shows how many more gymnasium boys there are who go through the full school course than *Realschule* boys, that whereas from the *Gymnasien* in 1863 there were 1,765 *Abiturienten* from *prima*, from the *Realschulen* in the same year there were but 214. Adding to the 1,765 *Abiturienten* 40 *Externen* who passed at the same time, we have 1,805 boys who got the classical certificate of ripeness in 1863. Of this number 1,563 went in that year to the Prussian universities. Of the 214 *Abiturienten* from the *Realschulen* (to whom are to be added three *Externen*, making 217), 124 went into the public service, 92 into the pursuits of commerce or industry; one went to prepare for the gymnasial leaving examination, that he might go into a learned profession. Evidently the mass of those who

go into business leave the *Realschule* before *prima*, and the majority of those who stay for *prima* stay with the hope of public employment. But the minor certificates accessible to those who leave *secunda* and *tertia* promote an attendance at school longer than that which boys going into business would without the attraction of these certificates be willing to give; and they promote, too, a wholesome return upon the school work done, and a mastering of it as a whole; which tend, the school work having in the first instance been sound and well given, to make culture take a permanent hold upon the future tradesman or farmer. Accordingly, it is common to meet in Germany with people of the tradesman class who even read (in translation, of course) any important or interesting book that comes out in another country, a book like Macaulay's *History of England*, for instance; and how unlike this state of culture is to that of the English tradesman, the English reader himself knows very well.

CHAPTER V.

THE PRUSSIAN SCHOOLMASTERS; THEIR TRAINING, EXAMINATION, APPOINTMENT, AND PAYMENT.

Examination for Schoolmasters—Its History—Present Plan of Examination for Schoolmasters—Normal Seminaries for Schoolmasters—Probation and Practising Lessons of Schoolmasters—Appointment of Schoolmasters, and Jurisdiction over them—Intervention of the Education Minister—Religious Instruction—Denominational character of the Prussian Schools—Wide Acceptation of the Denomination Evangelisch—Exclusion from School Posts of certain Dissenters and of Jews—Rank and Title of Schoolmasters—Payment of Schoolmasters.

To insure that the school work, which so much is done to encourage, shall indeed be sound and well given, it is not in Prussia thought sufficient to test the schoolboy and the candidate for matriculation; the candidate for the office of teacher is tested too. This test is the famous

Staatsprüfung for schoolmasters (*Prüfung der Candidaten des höheren Schulamts*), and is the third great educational reform I have enumerated (the *Lehrplan* and the *Maturitätsprüfung* being the other two) which owes its institution to Wilhelm von Humboldt. Before 1810 a certificate of having proved his fitness was not required of a candidate for the post of schoolmaster. Municipal and private school-patrons, in particular, made their nomination with little regard to any test of the kind. There was generally in their school a practice of promoting the teachers by seniority to the higher classes, and this practice had very mischievous results. A project was canvassed for giving to the authorities of public instruction the direct appointment to the more important posts in schools even of municipal or private patronage. This project was abandoned. 'But,' said Wilhelm von Humboldt, 'the one defence we can raise against the misuse of their rights by patrons, is the test of a trial of the intending schoolmaster's qualifications.'

This test was established in 1810. An examination and a trial lesson were appointed for all candidates for the office of teacher. It was made illegal for school patrons to nominate as teachers any persons who were not *geprüfte Subjecte*. As time went on, the security thus taken was gradually made stronger. The trial lesson was found to be an inutility, as any one who has heard trial lessons in our primary Normal Schools can readily believe, and a trial year in a school (*Probejahr*) was in 1826 substituted for it. In the following year it was ruled that the *pädagogische Prüfung*, which forms part of the examination of candidates for orders, and which had hitherto been accepted in lieu of the new test, was insufficient; and that persons in orders, as well as others, must go through the special examination for schoolmasters. This regulation gave full development to a policy which had been contained in the reform of 1810, a policy which Wolf had long before done his best to prepare and had declared to be indispensable if the higher schools of Prussia were to be

made thoroughly good:—the policy of making the schoolmaster's business a profession by itself, and separating it altogether from theology.

The rules now in force for this examination date in the main from 1831. It is held by the High Examining Commissions (*Königliche Wissenschaftliche Prüfungscommissionen*) of which I have already described the composition, and which are seven in number. The candidate sends in his school-certificate of fitness for university studies, and his certificate of a three years' attendance at university lectures. With these certificates he forwards to the commission a *curriculum vitæ*, such as used to be required from candidates for many Oxford fellowships. The candidate for the gymnasium writes this in Latin; the candidate for the *Realschule* may write it in French. The certificate given takes the form of a *facultas docendi*, or leave to teach; and this is *bedingte* or *unbedingte*,—conditional or unconditional. The matters for examinations are grouped under four main heads (*Hauptfächer*): first, Greek, Latin,

and the mother tongue; secondly, mathematics and the natural sciences; thirdly, history and geography; fourthly, theology and Hebrew. This last *Hauptfach* concerns especially those who are to give the religious instruction in the public schools; if they have been examined for orders before a theological board and have passed well, an oral examination is all the divinity-examination they have to undergo before the Commission. Those who are to give the secular instruction have likewise only an oral examination in divinity, and are not examined in Hebrew; but they must satisfy the Commission as to their acquaintance with Scripture and with the dogmatic and moral tenets of Christianity. Candidates weak in their divinity have this weakness noted in their certificate, and the Provincial School Boards are directed not to appoint any teacher weak in this particular till he has been re-examined and has passed satisfactorily; and the *curriculum vitæ* of every candidate has in the first instance to state what he has done at the university to

keep up and increase his knowledge of divinity (*seine Religionswissenschaftlichen Kenntnisse zu erweitern und tiefer zu begründen*). These latter regulations date from within the last twenty years.

The unconditional *facultas docendi* is only given to that candidate who in his *Hauptfach* shows himself fit to teach one of the two highest forms, and sufficiently acquainted with the matters of the other *Hauptfächer* to be useful to his class in them. The candidate who in one *Hauptfach* is strong enough for any class up to *secunda* inclusive, but falls altogether below the mark in other sciences, receives a *bedingte* 'facultas docendi' for the middle or the lower forms, according as his capacity and the extent of his performance and of his failure seem to merit.

All candidates are required to be able to translate French with ease, and they must know its grammar. All must show some acquaintance with philosophy and pædagogic,*

* The Germans, as is well-known, attach much importance to

candidates for the unconditional *facultas docendi* a very considerable acquaintance; and all must satisfy the examiners that they have some knowledge of the natural sciences.

The candidate for a *Realschule* or a higher Burgher School need not take Greek, but he must pass in Latin. His *Hauptfächer* are: mathematics, natural sciences, history and geography, the mother tongue, modern languages. His examination in all the non-classical matters is even more stringent than that of candidates for the gymnasium, because of his comparative exemption from classics.

The trials *pro loco* and *pro ascenscione* are examinations imposed when the nominee to a place has not yet proved his qualifications for that place. For instance, the holder of a conditional *facultas docendi* cannot be appointed to

the science of pædagogic. That science is as yet far from being matured, and much nonsense is talked on the subject of it; still, the total unacquaintance with it, and with all which has been written about it, in which the intending schoolmaster is, in England, suffered to remain, has, I am convinced, injurious effects both on our schoolmasters and on our schools.

a class in the highest division without being re-examined, and the holder of an unconditional *facultas docendi* cannot teach another matter than the *Hauptfach* in which he has proved his first-class qualification, without being re-examined.

A special *facultas docendi* is given to the foreign teacher of modern languages; but even he, besides the modern language he is to teach, must know as much Latin, history, geography, and philosophy as is required of candidates who are to teach in the middle division of a gymnasium. This provision guards against the employment of subjects so unfit by their training and general attainments to rule a class, as those whom we too often see chosen as teachers of modern languages.

The High Commissioners send yearly to the Provincial School Board of each province a report of these examinations for that province, with the necessary remarks. The candidates for masterships present themselves, with their certificates, to the School Board of the province

in which they wish to be employed. In certain exceptional cases candidates may be employed two half-years running without a certificate; but at the end of that time, if they have not passed the examination, they must be dismissed.

Those who at the university have taken, after examination, the degree of doctor, and have published the Latin dissertation required for that degree, are excused from the written part of the schoolmaster's examination. When this examination was first instituted, both Schleiermacher and Wolf, being then members of the Education section, declared themselves strongly against allowing any university title to exempt candidates for the *höhere Schulamt* from going through the special examination. Probably they were right, for the seriousness of the degree examination, and the value of the degree, is not the same in every German university. They were overruled, however; but little or no inconvenience does in fact arise from the allowance, in this case, of an equipollent title;

because if a candidate brings the degree of doctor from a university whose degrees are not respected, and if he inspires any suspicion, the patrons who are to nominate him, or the Provincial Board which is to confirm him, invite him to go through the special examination first; and if he refuses, or if he cannot pass, his appointment is not proceeded with.

The *Probejahr*, or year of probation, must, as a general rule, be passed at a gymnasium or a *Realschule*, not at a progymnasium or a higher Burgher School. In this way the schoolmaster of the lower class of secondary schools is a man who has known the working and standards of the higher. The probationer is commonly unpaid, but if he is used in the place of an assistant master, the school which so uses must pay him. The schools are, however, expressly directed not to treat the probationer as a means of relieving an overtasked staff, but to give him an opportunity of learning, in the best way for himself, the practice of his business, and to let him therefore work with

several different classes in the course of his year. At the end of his year he receives a certificate from the school authorities as to the efficiency which he shows.

The time passed in a Normal Seminary counts instead of the *Probejahr;* but these seminaries have not in Prussia, any of them, the importance of the *Ecole Normale* in France. There is not the same need of the institution in Germany as in France, and no German professor is obliged to pass through it. The *Ecole Normale* is of much more use in giving its student the thorough possession of what he knows and the power of independent application of it, than in teaching him to teach; and these more valuable functions of a Normal School are performed in Germany by the *Gymnasien* and the universities, to an extent to which the *lycées* and faculties in France by no means perform them. Hence in France the need and utility of the *Ecole Normale.* The normal seminaries in Germany are connected with the different universities, and designed, in

general, to give the future schoolmaster a more firm and thorough grasp on the matters he studies there. The pædagogical seminaries have not been so important or so fruitful to him as the philological seminaries, where this design has been applied to what has hitherto been the grand matter of his studies,—*Alterthumswissenschaft*, the systematic knowledge of classical antiquity. It was as the head of the philological seminary at Halle that Wolf gave that impulse to the formation of a body of learned and lay schoolmasters of which Germany has ever since felt the good effects. This seminary was opened in 1787, and Wolf was its director for nearly twenty years, till the University of Halle was closed by Napoleon after the battle of Jena, and Wolf went to Berlin to be a member of the Department of Education there. During the latter part of Wolf's time at Halle, he was assisted in the seminary by Immanuel Bekker. There are twelve seminarists, with a small exhibition of 40 thalers (£6) a year each; the exhibition was tenable for two years. No

one was admitted to an exhibition who had not already completed his first year's course in the university, but students from any of the faculties might attend the seminary lectures. They attended in great numbers, and for the exhibitions themselves there were at the first examination sixty candidates. The seminary lessons were interpretation lessons and disputation lessons, the former being, as the name implies, the interpretation of a given author; the latter being the discussion, between two or more of the seminarists, either of a thesis set long beforehand and treated by them in written exercises, or of a thesis set by Wolf at the moment and then and there treated orally, in Latin, by his pupils. Wolf's great rule in all these lessons was that rule which all masters in the art of teaching have followed,—to take as little part as possible in the lesson himself; merely to start it, guide it, and sum it up, and to let quite the main part in it be borne by the learners. The more advanced seminarists had some practice in the Latin school of the Orphan

House at Halle. The more recent statutes of this philological seminary have set forth in express words, as the object of the institution, the design which Wolf always had in his mind in directing it;—the design to form effective classical masters for the higher schools. Every Prussian university has a philological seminary, or group of exhibitioners much like that which I have described at Halle, not more than twelve in number, with a two years' course following one year's academical study, and *Alterthumswissenschaft* being the object pursued. There are generally two professors specially attached to the seminary, one for Greek, the other for Latin. Besides the ordinary members or seminarists, a good number of extraordinary members, and a yet much larger number of *Auscultanten*, attend the lessons. The staff of the philological seminary at Berlin has this constellation of names, from 1812, when this seminary was founded, to the present time:—Boeckh, Buttmann, Bernhardy, Lachmann, Haupt. The philological seminary of the

University of Bonn was founded in 1819, and has had on its staff Professors Nake, Welcker, Ritschl, Otto Jahn. The mouth of the student of *Alterthumswissenschaft* in other countries may indeed water when he reads two such lists as these.

At the University of Bonn there is also a *Naturwissenschaftliches Seminar*, founded in 1825 on the express ground that qualified teachers of the natural sciences in the secondary schools were so much wanting. Bonn, has, too, a *historisches Seminar* founded in 1861 for the promotion of historical studies, and also to provide good history-teachers for the secondary schools. Dr. von Sybel, the well-known historian, is at present one of its professors. The Universities of Breslau, Greifswald, Königsberg, have likewise historical seminaries, serving either by statute or in practice the same end, of preparing specially qualified teachers of history for the public schools. Berlin, Königsberg, and Halle have also seminaries either for mathematics, or for mathematics and the natural

sciences together; these, too, serve, in their line of study, the same end as the philological and historical seminaries serve in theirs. Berlin has also travelling fellowships of a year's duration, to enable Germans, who are to teach French in the public schools, to study the French language and literature in France itself. Two exhibitions of £45 a year each are attached to the Royal French School in Berlin, with the like object of enabling the future teacher of French to learn French practically and thoroughly. These are Crown foundations; the Crown, associations, and private individuals are all founders of seminaries. The estimate of none of those which I have named exceeds 1,000 thalers (£150) a year. It is astonishing how much is done in Prussia with small supplies of money.

Special pædagogic seminaries (*pädagogische Seminarien*) exist at Berlin, Königsberg, Breslau, Stettin, and Halle. Of these the assigned business with their seminarist is 'to introduce him to the practical requirements of the pro-

fession of schoolmaster;' but this introduction is still to be carefully accompanied by a continuance of his general intellectual culture. In general, the seminarist here must have passed the examination *pro facultate docendi*, and instead of the *Probejahr* in a school he spends two or three years in the pædagogic seminary. Each seminarist has a certain number of hours' practice (six hours a week at Berlin) in a secondary school; he is present at the conferences, or teachers' meetings, of the school to which he is attached, and he lives with one of its older masters. The Berlin *pädagogische Seminar* was founded in 1787, at first with a single gymnasium (the *Friedrich-Werdersche*) assigned as its practising school; since 1812 all the gymnasiums for Berlin have served in common for this purpose. There are now ten regular exhibitioners; but the exhbitions here are good, and the estimate for the seminary is much larger than that of any other seminary I have named; it is 2,390 thalers a year. Dr. Boeckh was in 1865 the director of this seminary as well as of the philo-

logical one; and this joint direction well illustrates the close relation at present, in Germany as elsewhere, of the schoolmaster with philology. At Stettin the seminary has only four regular exhibitioners; they have good exhibitions, lasting for two or three years. This seminary is for the benefit in the first instance of the province of Pomerania, and the seminarists have to engage themselves to take, when their exhibition expires, any mastership the Provincial School Board offers them, and to keep it three years.

It is evident from what I have said that these exhibitions do not exist in sufficient number to provide seminary training for anything like the whole of that large body of teachers which the secondary schools of Prussia employ. It is found too that the directors and masters of great schools in large towns, who have a great deal to do and constant claims upon their attention, do not like being saddled with the care of seminarists either at their homes or in their classes. The same difficulties tell against their giving to probationers in their trial year due

supervision. But it is the living for a time with an experienced teacher and the making the first start in teaching under his eye, that is found to be so especially valuable for promising novices. It is proposed therefore, instead of founding fresh pædagogic seminaries, to make arrangements for selecting a certain number of good schoolmasters, who will take charge, for payment, of a batch of novices (not more than three) for a two years' probationary course before launching them independently; and a *stipendium*, or exhibition, such as is given in the seminaries, is to be bestowed on those probationers whose circumstances require it. It is hoped in this way to provide a preliminary training of two years for all the most deserving subjects who go into the profession.

At the end of his term of probation the probationer gets his appointment. I have said before that for all appointments to masterships in the secondary schools, the intervention of the State authority is necessary. In schools of Crown patronage the appointment is called

Bestallung; in schools not of Crown patronage it is called *Vocation*; the State can give *Installation,* absolute occupation; other patrons can only nominate, and their nominee, if an improper person, is rejected, with reasons assigned, by the State authorities. The Crown, exercising its patronage through the Education Minister, appoints, in all Crown patronage gymnasiums and *Realschulen,* the director. The Provincial Boards, in the minister's name and by commission from him, appoint the upper masters (*Oberlehrer*) in these schools, and the rector in all Crown patronage progymnasiums and higher Burgher Schools. The other masters in Crown patronage schools, the Provincial Board appoints by its own authority. The nomination of a director in schools of municipal or private patronage requires the Crown's assent and the minister's confirmation. The nomination of an *Oberlehrer* in such schools requires the minister's assent and the Provincial Board's confirmation. The nomination of other masters in such schools the Provincial Board

is empowered to confirm without the assent of the minister. All the directors and masters, whether appointed by the State or only confirmed by it, take an *Amtseid*, or oath of office, by which they swear obedience to the Crown. In schools of Crown patronage, when the minister directs, on special grounds, the appointment, promotion, or transference, of a master, the Provincial Board must comply.

The minister, however, has in Prussia a far less immediate and absolute action upon the secondary schools than the minister has in France. In France the minister can dismiss any functionary of secondary instruction; in Prussia he can reprimand him and stop his salary for a month, but he cannot of his own authority dismiss him. Directors and upper masters are under the jurisdiction of the Court of Discipline for the Civil Service (*Disciplinarhof*) at Berlin; this court is a judicial body, four of its members belonging to the Supreme Court of Berlin; and any complaint requiring the dismissal of a director or upper master must be tried

before it. From the sentence of this court there is an appeal to the minister; but he is bound to appoint, for hearing the appeal, two referees, one of whom must be a member of the Department of Justice; and their decision is final. Complaints of like gravity against other masters (*ordentliche Lehrer*) are tried by the Provincial Board, which, like the Court of Discipline, hears counsel and examines witnesses on oath; from the sentence of the board there is also an appeal to the minister, who appoints in this case one referee only, but the referee, before deciding the appeal, has to take the opinion of the Court of Discipline. Everywhere in Prussia and in all German countries we shall find a disposition to take security against that immediate and arbitrary action of the executive which we remark in France; and though the Germans give effect in a very different way from ours to this innate disposition of the Teutonic race, yet they give such effect to it as to establish a notable difference,—the more manifest the more one examines the institutions of the two countries,—

between the habit and course of administration in Germany and in France.

I cannot but think an Education Minister a necessity for modern States, yet I know that in the employment of such an agency there are inconveniences, and I do not wish to hide any of them from the English reader. I have said that in France political considerations are in my opinion too much suffered to influence the whole working of the system of public education. In Prussia the minister is armed with powers, and issues instructions showing how he interprets those powers, which in England would excite very great jealousy. He tells the provincial authorities that no reproach must attach to the private and public life, any more than to the knowledge or ability, of a candidate for school employment; he tells them that they are to take into consideration the whole previous career, extra professional as well as professional (*das gesammte bisherige amtliche und ausseramtliche Verhalten*), of such a candidate; and that schoolmasters should be men who will train up

their scholars in notions of obedience towards the sovereign and the State.

I know the use likely to be made, in England, of the admission that a Prussian Education Minister uses language of this kind; and I will be candid enough to make bad worse by saying that the present minister, Dr. von Mühler,* is what we should call in England a strong Tory and a strong Evangelical. It is not, indeed, at all likely that in England, with the forces watching and controlling him here, a minister would use language such as I have quoted; and even if it were, I am not at all sure that to have a minister using such language, though it is language which I cordially dislike, is in itself so much more lamentable and baneful a thing than that anarchy and ignorance in education matters under which we contentedly suffer. However, what I wish now to say is, that in spite of this language, the political influence which has such real effect upon the public education of France, has no effect, or next to

* He is now (1873) removed.

none, upon that of Prussia. I do not believe that it has more on that of Prussia than it has on that of this country. I took great pains to inform myself on this head. The last few years before 1865 were a time of great political pressure in Prussia; I arrived there when this pressure was at its height, and I conversed mainly with persons opposed, some of them bitterly opposed, to the Government. They all told me that the State administration of the schools and universities was in practice fair and right; that public opinion would not suffer it to be governed by political regards, or by any but literary and scientific regards; and that public opinion would always, in this particular, find strong sympathies among the ministers themselves. I heard of one director to whom Dr. von Mühler had refused confirmation because his politics, which had been very strongly declared, were unacceptable. This director I had the pleasure of seeing; he told me himself, what I heard also from others, that his case was an isolated one; and that it had caused such strong dissatisfac-

tion, not only among the public, but to the school authorities who represent the State in the provinces and consider themselves responsible for the march and efficiency of secondary instruction, that the minister had found himself obliged to appoint him, within a very few months, to a Crown patronage school of greater importance than the municipal school for which he had refused him confirmation. The director added, and this too was confirmed by others, that such an intrusion of political feeling as had prevented his confirmation, was in the case of a *Lehrer* or teacher,—either an upper teacher or an ordinary teacher,—absolutely unknown.

The truth is, that when a nation has got the belief in culture which the Prussian nation has got, and when its schools are worthy of this belief, it will not suffer them to be sacrificed to any other interest; and however greatly political considerations may be paramount in other departments of administration, in this they are not. In France neither the national belief in culture nor the schools themselves are suffi-

ciently developed to awaken this enthusiasm; and politics are too strong for the schools, and give them their own bias.

I have spoken several times of the religious instruction as forming part of school work and of examinations. The two legally established forms of religion in Prussia are the Protestant (*evangelisch*) and the Catholic. All public schools must be either Protestant, Catholic, or mixed (*Simultananstalten*). But the constitution of a mixed school has not been authoritatively defined, and though the practice has grown up, especially in *Realschulen*, of appointing teachers of the two confessions indifferently, yet these *Simultananstalten* retain the fundamental character of Christian schools, and indeed usually follow the rule either that the director and the majority of the masters shall be Catholic or that they shall be Protestant. In general, the deed of foundation or established custom determines to what confession a school shall belong. The religious instruction and the services follow the confession of the school. The ecclesiastical

authorities,—the consistories for Protestant schools, the bishops for Catholic schools,—must concur with the school authorities in the appointment of those who give the religious instruction in the schools. The consistories and the bishops have likewise the right of inspecting, by themselves or by their delegates, this instruction, and of addressing to the Provincial Boards any remarks they may have to make on it. The *ordinarius*, or class-master, who has general charge of the class, as distinguished from the teachers who give the different parts of the instruction in it, is generally, if possible, the religious instructor. In Protestant schools the religious instructor is usually a layman; in Catholic, an ecclesiastic. The public schools are open to scholars of all creeds; in general, one of the two confessions, evangelical or Catholic, greatly preponderates, and the Catholics, in especial, prefer schools of their own confession. But the State holds the balance quite fairly between them; where the scholars of that confession which is not the established

confession of the school are in considerable numbers, a special religious instructor is paid out of the school funds to come and give them this religious instruction at the school. Thus in the gymnasium at Bonn, which is Catholic, I heard a lesson on the Epistle to the Galatians (in the Greek) given to the Protestant boys of one of the higher forms by a young Protestant minister of the town, engaged by the gymnasium for that purpose. When the scholars whose confession is in the minority are very few in number, their parents have to provide by private arrangements of their own for their children's religious instruction.

Prussia had, in 1864, 11,289,655 Protestant inhabitants, 6,901,023 Catholic inhabitants. She had nearly 300,000 inhabitants classed neither as *evangelisch* nor as Catholic, and these were principally Jews. In her public higher schools, out of 66,135 boys, 46,396 were Protestant (*evangelisch*), 14,919 were Catholic. The rest, 4,820, were Jews.

The wide acceptation which the denomina-

tion *evangelical* takes in the official language of Prussia prevents a host of difficulties which occur with us in England. Under the term *evangelisch* are included Lutherans, Calvinists, and the United Church formed on the basis of what is common to Lutherans and Calvinists; Baptists also, Independents, Wesleyans (for there are Wesleyans in Prussia) are included by it, and in short, all Protestants who are Christians, in the common acceptation of that word. The State, however, in Prussia, not only declares itself Christian (*der Preussische Staat ist ein christlicher*, says the *Unterrichtsverfassung* of 1816) but it expressly disclaims the neutral, colourless, formless Christianity of the Dutch schools and of our British schools (*der Religionsunterricht darf durchaus nicht in einen allgemeinen Religionsunterricht hinübergespielt werden*). So the Protestant schools as well as the Catholic employ a dogmatic religious teaching. In all schools of the evangelical confession Luther's Catechism is used, and all Protestant boys of whatever denomination learn it. Not the

slightest objection is made by their parents to this. It is true that Luther's Catechism is perhaps the very happiest part of Lutheranism, and therefore recommends itself for this common adoption, while our Catechism can hardly be said to be the happiest part of Anglicanism.

The various denominations of Protestant Christians are thus harmoniously united in a common religious teaching. But the State, keeping in view the *christlichen Grundcharakter* of itself and its public schools, refuses to employ any masters who are not either Catholics, or, in the wide sense assigned to the term *evangelisch*, Protestants. Dissenters who are not Christians, and specially the *Lichtfreunde*, as they call themselves (they would with us generally go by the name of Unitarians or Socinians), are thus excluded from the office of public teacher, and so are Jews. In a country where the Jews are so many and so able, this exclusion makes itself felt. A Jew may hold a medical or mathematical professorship in the Prussian universities, but he may not hold a professor-

ship of history or philosophy. France is in all these matters a model of reason and justice, and as much ahead of Germany as she is of England. The religious instruction in her schools is given by ministers of religion, and the State asks no other instructor any questions about his religious persuasion.

Restrictions such as that which I have just described are said to be contrary to the provisions of the Prussian Constitution of 1850. The Prussian Parliament has begun to occupy itself with them, and it is probable they will not long be maintained.

A master on his appointment takes the title of *ordentliche Lehrer,* ordinary master (the title of under-master is not used in the Prussian schools), or of *Oberlehrer,* upper-master. The *Oberlehrer* is so either by post or by nomination. The posts conferring the title of *Oberlehrer,* posts in the upper part of the school, can only be held by a teacher whose certificate entitles him to give instruction in one of the two highest classes. *Oberlehrer* by nomination are masters

of long standing, who as *ordinarii* or general class-masters have done good service, and have the title of upper-master given to them in acknowledgment of it; but the title so conferred does not enable them to give instruction in any class for which their certificate does not qualify them. The regulations direct that there shall be not more than three *Oberlehrer*, exclusive of the director, for every seven *ordentliche Lehrer;* but in schools with a larger staff of *ordentliche Lehrer* than this, the proportion of *Oberlehrer* to *ordentliche Lehrer* may become much larger. The minister confers the title of professor upon masters distinguished by their attainments and practical success. The directors rank as full professors of the universities, the masters with the title of professor rank as assistant professors of the universities. It should be said that in Germany the title of professor confers on its holder a fixed rank, as a few official titles do here in England. The director is more like one of our head-masters than he is like a French *proviseur*, but he does not, like our

head-masters, give the whole of the instruction, or even the whole of the classical instruction, to the head class. Often he is not its *ordinarius*. He, like other masters, cannot give any part of the instruction for which he has not at some time proved his qualification. In general he has some special branch in which he is distinguished, and in this branch he gives lessons in *prima*, and usually in other classes too; governing also, as his name implies, the whole movement of the school, and appearing, much oftener than our head-masters, in every class of it.

Formerly few masterships had fixed incomes assigned to them, but it has more and more become a rule of administration in Prussia to give to all directors and teachers fixed incomes, and to do away with their sharing the school fees. Neither the proceeds of these, nor the proceeds of foundations, are in any case abandoned to the school staff, to do what they like with. On the school estimates which I have described, all salaries appear, and all receipts from endowments or from school fees; the

surplus of receipts over salaries and other school expenses is funded, and becomes available for enlarging or improving the school. There are few large endowments; in one or two cases, as at Schulpforta, the endowment is allowed to create for the director and the teachers a position above the average, and at Berlin, where the proceeds of the school-fees are very great, the masters of the public schools have also a position above the average; but all this is kept within strict regulation, and is settled, as I have said, by administrative boards of public composition, or under public supervision, and is not left to the disposition of the school staff itself. Schulpforta has a yearly income of more than £8,000, but of this sum, less than £2,000 goes in salaries to the rector and masters. The yearly sum funded, after all the expenses of this noble foundation are paid, is not much smaller than the sum spent in salaries.

By a *Normaletat*, or normal estimate, there is fixed for the staff of State gymnasiums the following scale of payments, which is above

rather than below the average scale in *Real-schulen*, or in any kind of secondary school not of State patronage. The scale has three classes: the first class is for nine places in Prussia, exclusive of Berlin and Schulpforta, which stand on an exceptional footing of their own; the second class is for thirty-four places; the third class for fifty-eight. Of course the nine places in the first class, being the principal towns in Prussia except the capital, have far more than nine gymnasiums. In all the State gymnasiums of these nine places, the scale of salaries is, for the director, £270 a year; for the masters, according to their post and their length of standing, from £90 a year to £195. In the thirty-four places of the second class, the scale is, for a director, £240 a year; for the masters, from £82 10s to £172 10s. In the fifty-eight places of the third, for a director, £195; for the masters, from £75 to £150. The salaries thus fixed are meant to represent the whole emoluments of the post; when a house is attached to a post, the rule is that a deduc-

tion of 10 per cent. shall be made from the salary to balance the gain by the house. In some places there are special endowments for augmenting masters' salaries; thus the *Streitsche Stiftung* gives £455 a year to augment the masters' salaries at the Greyfriars gymnasium, in Berlin; but nowhere probably in Prussia does a school salary reach £350 a year, and the rector of Schulpforta, whose post is perhaps the most desirable school post in the Prussian dominions, has, I understand, about £300 a year, and a house. To hold another employment (*Nebenamt*) along with his school post, is not absolutely forbidden to the public teacher; thus Dr. Schopen, the excellent Latin scholar at the head of the Bonn gymnasium, is at the same time professor in the philosophical faculty of the university there; but the *Nebenamt* must not interfere with his school duty, and the supervising authorities take good care that it shall not. So far as it does not interfere with his school duty, the public teacher may give private tuition, and in this manner increase his

income; but to give private tuition for fee to the pupils of his own form in the public school, he needs the director's consent. Even when every possible addition to it has been allowed for, the salary of a Prussian schoolmaster will appear to English eyes very low.

The whole scale of incomes in Prussia is, however, much lower than with us, and the habits of the nation are frugal and simple. The rate of schoolmasters' salaries was raised after 1815, and has been raised again since; it is not exceptionally low as compared with the rates of incomes in Germany generally. The rector of Schulpforta with his £300 a year and a house, has in all the country round him,—where there is great well-doing and comfort,—few people more comfortably off than himself; he can do all he wants to do, and all that anybody about him does, and this is wealth. The schoolmasters of the higher school enjoy, too, great consideration; and consideration, in a country not corrupted, has a value as well as money. As a class, the Prussian schoolmasters

are not, so far as I could find out, fretting or discontented; they seem to give themselves heartily to their work, and to take pride and pleasure in it.

What I have yet to say about Prussian schools, their scholars, and their teachers, may perhaps be best said in connection with two or three of those institutions which I visited. In this manner I shall have an opportunity of rendering, by the help of particular illustrations, general results and statements more interesting to the English reader, and more intelligible to him.

CHAPTER VI.

THE PRUSSIAN SYSTEM SEEN IN OPERATION IN PARTICULAR SCHOOLS.

The Berlin Schools—The Friedrich-Wilhelms Gymnasium—Its History—Its Confessional Character, Teachers and Charges—Its Classes—Its Lessons—School-Books—The Greyfriars Gymnasium—Its History and Endowment—Day Scholars and Boarders in German Schools—The Joachimsthalsche Gymnasium—Schulpforta—The Studientag at Schulpforta—Games and Gymnastics—The Friedrich-Wilhelms Gymnasium at Cologne—Studies of the Gymnasium and of the Realschule—Conflict between their Partisans.

BERLIN has four royal gymnasiums, one with a *Realschule* annexed; four municipal gymnasiums, one with a *Realschule* annexed; four other municipal *Realschulen*, and one higher Burgher school. All these are full; there were,

in 1863, 6,874 scholars in them, without counting the children in the *Vorschulen* or preparatory schools which several of them have as appendages; but the supply of higher schools in Berlin is not sufficient for the demand, and the municipality, which was spending in 1863 more than £40,000 a year on the secondary and primary schools of the city, is about to provide several higher schools more. All through Prussia one hears the same thing: the secondary schools are not enough for the increasing numbers whom the widening desire for a good education (*der weiter verbreitete Bildungstrieb*) sends into them. The State increases its grants, and those grants are met by increased exertions on the part of the communes, but still there is not room for the scholars who come in, and the rise which has taken place in the rate of school fee has in no degree stopped them. To obtain the State's consent to the formation of a new school with the name and rights of a public secondary school, a commune must satisfy the State authority both that its municipal schools for the poor

will not be pinched for the sake of the new establishment, and also that it can provide resources to carry on the new establishment properly, and in conformity with the requirements of the *Lehrplan*. This is being done in all directions. Perhaps the most remarkable of the higher schools at Berlin is the *Friedrich-Wilhelms Gymnasium*. The Greyfriars gymnasium (*Gymnasium zum grauen Kloster*) has about the same number of scholars, but with the *Friedrich-Wilhelms Gymnasium* is connected a *Realschule;* a *Vorschule*, or preparatory school, common to the gymnasium and the *Realschule* both; and a girls' school, called from the then Crown Princess of Prussia who gave it her name in 1827, the *Elisabetschule*. There were, at the end of 1863, 2,200 scholars in the whole institution together; 581 in the Gymnasium, 601 in the *Realschule*, 522 in the preparatory school, and 496 in the girls' school. The gymnasium is remarkable as being the only higher school in Prussia, except the *Realschule* on the Franck foundation at Halle, where the receipts from

the scholars cover the expenditure of the school. The annual expenditure for the gymnasium, *Realschule*, preparatory school, and *Elisabetschule* together, is in round figures 65,000 thalers; the receipts from the scholars' fees are in round figures 53,000 thalers. The property of the institution is very small, producing about £400 a year only, so the deficiency is made up by a State grant of about 10,000 thalers; this deficiency, however, arises not in the gymnasium, where the school-fees more than cover the expenses, but in the schools allied with it.

The history of this institution is the history of many public schools in Prussia. It owes its origin to the Church, and has then in course of time passed under the superintendence of the State. I have mentioned the establishment by Johann Hecker in 1747 of the first *Realschule* at Berlin. Hecker was preacher at the Trinity Church in the Friedrichsstadt, and he grouped together several small schools in his parish under the name of a *Realschule*. The institution throve from the first; in 1748 it had 808 scholars, and

20 years afterwards it had 1,267. It was governed by the curators of the Trinity Church and by inspectors of their appointment; and it was supported, having no endowment except a very trifling house-property, by voluntary contributions and by school-fees. The Latin school, which was one of the grouped schools, grew in importance, and at the fiftieth anniversary of the institution it received the name of *Friedrich-Wilhelms Gymnasium*, and in 1803 was rebuilt with a grant from the king of nearly £10,000 towards the rebuilding. At the great reforming epoch of 1809 it passed with the other secondary public schools of Berlin under the administration of the Education Department; this change being sanctioned, not only by public opinion, but by the governing bodies of the schools themselves, with the view of giving to these great and important metropolitan establishments the benefit of a common and intelligent direction. The *Friedrich-Wilhelms Gymnasium* is now, therefore, both for *interna* and *externa*, under the School Board of the province of

Brandenburg, to which, as soon as the School Boards were constituted, the central department transferred its direct charge of the public schools.

The gymnasium is by foundation Protestant, and out of the 600 boys whom I found there, only 20 were Catholics and 15 were Jews. The united schools have a joint director and a joint administration of their affairs. They have altogether 66 teachers, of whom 21 are for the gymnasium. Of these 21, 11 are *Oberlehrer*, and of these 11, six or seven have the title of professor. The director is Dr. Ferdinand Ranke, a brother of the historian; he has been nearly twenty-five years director here, and more than forty years in the profession. He and seven of the upper-masters of the gymnasium are lodged in the school buildings, which are very plain; but in the school-court is one of those relics of the past, so far more common in the German schools, as in ours, than in the French, —the inscription on Hecker's original schoolhouse: *Scholæ Trinitatis ædes in Dei honorem,*

regis gaudium, civium salutem, juventutis institutioni dicatæ. There are no boarders; a boarding establishment, which originally formed part of the institution, having been done away with in 1832. The scholars all through the school pay the same fee, 26 thalers a year (£3 18*s*). In the *Vorschule* the fee is the same; in the *Realschule* it is only two thalers a year lower. In one gymnasium at Berlin the scholars pay four thalers a year more than in the *Friedrich-Wilhelms Gymnasium*; in all the others they pay one thaler less. There is very considerable variety in the rate of school-fees in Prussia, the circumstances of the school and locality being always taken into account in fixing it. The rate in the metropolitan schools is of course a comparatively high one, low as it seems to us. Many schools have a rate rising with the class or division; thus in the gymnasium at Wetzlar the boys in *sexta* and *quinta* pay 16 thalers, those in *quarta* and *tertia* pay 10 thalers, those in *secunda* and in *prima* pay 20 thalers. In some schools the rate is as low as eight or ten

thalers for the lower classes, and 14 or 16 thalers for the higher. As an average rate for all the gymnasiums of Prussia, 20 thalers (£3) a year, would certainly be rather above the mark than under it. The rates in the *Realschulen* and the higher Burgher Schools do not in general range below those of the classical schools. Moderate as these present rates appear to us, they are much higher than they used to be; in the *Friedrich-Wilhelms Gymnasium* the school-fee twenty years ago was only 16 thalers in *sexta* and *quinta*, and 20 thalers in the other classes. In many provincial schools it was astonishingly low, as low as two, two and a half, and three thalers. In a gymnasium I have already mentioned, the *Magdalenen-Gymnasium* at Breslau, there was, in 1824, a uniform fee of 8 thalers, and there is now a uniform fee of 24 thalers.

In the *Friedrich-Wilhelms Gymnasium* I found that 10 per cent. of the 600 scholars had free schooling. The number of free posts, as they are called (*Freistellen*), varies in different schools; in some it goes up to 25 per cent.,

but I think 10 per cent. may be taken as a fair average. These free posts are given on the ground of need and public claim. There are also a few exhibitions in the *Friedrich-Wilhelms Gymnasium;* but it will be best to notice the subject of exhibitions when I am speaking of some older and richer establishment.

Of course in the very large schools it is not possible to actually group and teach the scholars in six classes, nor yet is it always possible to observe the rule which enjoins that there shall not be more than forty scholars in either *secunda* or *prima*, or more than fifty in any of the other classes. The supply of class-rooms falls short, even more than the supply of teachers. The highest class, however, always remains *prima*, as in our great schools it always remains the *sixth;* and in the higher classes the Germans, as I have already mentioned, follow, when it is necessary, the plan of having an upper and lower division (*oberprima*, *unterprima*), and in other

classes both this plan and the plan of having two groups or assemblages (*cœtus*) at the same stage of school work, and advancing parallel to one another.

The first lesson I heard was Dr. Ranke's own lesson to *prima*, on the *Philoctetes* of Sophocles. He spoke Latin to his class and his class spoke Latin in answer; this is still a common practice in the German schools, though not so common as formerly. The German boys have certainly acquired through this practice a surprising command of Latin; Dr. Schopen's lesson at Bonn to his *prima* in extemporaneous translation into Latin,—a lesson which has a deserved celebrity,—I heard with astonishment; a much wider command of the Latin vocabulary than our boys have, and a more ready management of the language, the Germans certainly succeed in acquiring. On the other hand, the best style of the best authors is not, to my mind, so well caught in Latin composition by their boys as by ours. This is more particu-

larly the case in verse, where their best scholars often show, I cannot but think, not only a want of practical skill (that of course is nothing), but a want of tact for judging what is uncouth and inadmissible, which one would not have expected of people who know the Latin models so well. The same is true, in a less degree, of their prose; the best scholars in the best schools of England or France, if set to write a speech or a character in the style of Cicero or Tacitus, would, I think, in general acquit themselves of the task more happily than the corresponding boys of a German school.

But the feeling which was strongest with me in the Berlin *Philoctetes* lesson was the feeling that one seemed to be back in the sixth form at Rugby again, as I remember it nearly thirty years ago. After the lecture rooms at Oxford, and the French *lycées*, and the Italian *licei*, here was at last a body of pupils once more who had worked at their lessons, had learnt Greek, and were at home

in a Greek play. What the Berlin boys knew about the scope of the play, its chief personages, and the governing idea and character of each, was more than the Rugby boys would have known; but the quantity of lines done, the style of doing them, and the extent of scholarship expected in the boys and found in them, seemed to me as nearly as possible the same thing at Berlin and at Rugby. I thought the same in the afternoon when I heard Professor Zumpt (a son of the famous Latin scholar) take *unterprima* in Cicero's speech *Pro Sex. Roscio Amerino.* The boys had been through the oration during the early part of the half-year; they were now going very rapidly through it again, translating into fluent German without taking the Latin words. The master let the boys be the performers, and spoke as little as possible himself, but every good or bad performance was noticed. Just the same with lessons in Thucydides, Livy, and Horace, which I heard at other gymnasiums in Berlin.

The lessons had been well prepared by the pupils, the master made few comments, and only on really noteworthy matters, or to cite some parallel passage which was not likely to have come within his pupils' reading; in general, when he spoke it was to question, and he questioned closely. I was struck with the exact knowledge of the Horatian metres which the *unterprima* boys at Greyfriars showed when questioned on them. I found that the practice was to begin by taking eleven odes as specimens of metre, and carefully studying these before proceeding further. Then they commence the *Odes* at the beginning and go right through them. The portion of a Latin or Greek author got through at a lesson is about the same as in the corresponding form in one of the best English schools, but either in school or by private study the boys have certainly read more than our boys or the French; it is the general rule that a boy who goes in for the leaving examination has read Homer all through. A larger number of

the boys, too, seem to have really benefited by the instruction, and to be in the first flight of their class, than with us. But the great superiority of the Germans, and where they show how much further they have gone in *Alterthumswissenschaft* than we have, is in their far broader notion of treating, even in their schools, the ancient authors as *literature,* and conceiving the place and significance of an author in his country's literature, and in that of the world. In this way the student's interest in Greek and Latin becomes much more vital, and the hold of these languages upon him is much more likely to be permanent. This is to be set against the superior finish and elegance of the best of our boys in Latin and Greek composition; above all, in Latin and Greek verse. Greek verse, indeed, can scarcely be said to be a school exercise at all, so far as I could see or hear, in the foreign schools.

Instead of having to write Greek iambics, the boys in *prima* at the *Friedrich-Wilhelms*

Gymnasium, on one of the days when I was there, had had to write a summary of Lessing's essay on the epigram. The summaries were handed to the professor, who then made a boy stand up and give in his own words the substance of Lessing's essay, beginning at the beginning, the professor commenting and asking questions as the boy proceeded. Presently another boy was set on, and in this way they went through the essay. The lesson was as much out of the range of my English school experience as the lessons on the *Femmes Savantes* of Molière, which I heard, as I have already said, with so much interest in the *Ecole Normale* at Paris. The Berlin lesson, like the Paris one, was very interesting.

In the lower division of *tertia* (about the middle of the school) I had another opportunity of observing a way, not, I think, in use in England, of practising the boys in Latin. The lesson was Ovid ; the boys had had to translate at home a certain portion of Ovid

into German, and then to bring their translation with them to school. This they had then, in school, to turn back into Latin, not metrical. After this, boys were called upon one after another, as in England, to say a few lines of Ovid by heart; but then, again, each boy had also to say in German prose the passage he had just recited in Ovid's verse.

In *quinta* I heard the religious instruction. For boys still so near the primary school stage, religious instruction, as a part of the school lessons, seems to me to be still, as in the primary school, in place, and still useful; in the higher classes of the secondary school, it seems to me, I confess, unprofitable and inappropriate. Anything more futile and useless than the lesson in the *Galatians* which I heard given to *secunda* at Bonn cannot possibly be imagined. In *quinta* here at Berlin, it was different; the boys were first questioned in Bible narratives from a text-book; a good text-book and good questioning; then they said Luther's Short Catechism, and then

they repeated hymns. The two or three Catholic and Jewish boys belonging to the class did not come to this lesson.

The mention of a text-book reminds me to say a word about the rule in the Prussian public schools for school-books. The masters choose the books, but the approval of the Provincial Board must be obtained for their choice; before approving for the first time any new book, the Provincial Board must refer to the Education Minister and his Council. When a book has once been approved for a gymnasium, it may be used in any other gymnasium or progymnasium of the same province; but approval for a gymnasium does not count for a *Realschule*, and *vice versâ*.

I must in passing observe how greatly some intelligent censorship like that of the Provincial Boards and the Minister in Prussia, or that of the Council of Public Instruction in France, is needed for school-books in England. Many as are the absurdities of our state of school anarchy, perhaps none of them is more crying

than the book-pest which prevails under it. Every school chooses at its own discretion; many schools make a trade of book-dealing, and therefore it is for their interest to have books which are not used elsewhere, and which the pupil will not bring with him from his last school; so that a boy who has been at three or four English schools has often had to buy a complete new set of school-books for each. The extravagance of this is bad enough; but then, besides, as there exists no intelligent control or selection of them, half at least of our school-books are rubbish, and to the other defects of our school system we may add this, that in no other secondary schools in Europe do the pupils spend so much of their time in learning such utter nonsense as they do in ours.

I have mentioned the Greyfriars gymnasium, where I also heard lessons, and where they were of the same character as at the *Friedrich-Wilhelms Gymnasium*, a character much more like that of the lessons in our best English public schools than of the lessons in the French

lycées. The history of Greyfriars is this. It occupies the site of a Franciscan convent abolished at the Reformation; in 1574 the third part of the convent premises was assigned by the elector, at the instance of the town magistracy, for use as a public school. The magistracy endowed it, and the elector made it over to them, but with an electoral *Schulordnung*. Here from the earliest times of the school there was a *convictorium* (the Italian *convitto*). The robust appetite of the sixteenth century for the humanities appears in the original plan of work; Greek had thirteen hours a week, Latin ten, logic two, arithmetic two, singing five. In 1655 the school had 400 scholars. In the second quarter of the eighteenth century the mother-tongue and its literature first appear as part of the school course; the German public schools having thus the start of ours, in this particular, by about 125 years. In 1793 the school got the benefit of a great endowment which I have already mentioned, the *Streitsche Stiftung;* the capital

of this endowment is now £33,000. It is administered by a *Directorium* composed, not of Sigismund Streit's descendants, but as follows: the provost of St. Nicholas (parish minister), the director and the prorector of the school, a councillor of the Education Department, a merchant or tradesman, and a lawyer. The financial administration of this *Directorium* is controlled, in the manner I have already described, by the public finance officers of the *Regierung* or governmental district in which Berlin stands.

Streit's endowment maintains at Greyfriars teachers of the modern languages, of astronomy, and of music, provides a *Wohncommunitat* (lodging, bedding, fire, and lights) for twelve scholars, and a *Freitisch* (board) for twenty-four more; and keeps improving the school library (now 20,000 volumes), the observatory, collections, etc. It also augments the salaries of the director and a number of the masters. Other benefactions provide the widows of masters who die in office with a sum for their

husbands' funeral expenses, and a pension of £45 a year. There is an endowment of nearly £450 a year for exhibitions to be enjoyed at the school, and of £150 a year for exhibitions at the universities. Every two years is held a school-festival in honour of founders and benefactors. The school premises had an important enlargement by Crown grants of land in 1819 and 1831, and great additions have since that time been made to the buildings. I found about 550 boys, with a director and twenty-five masters. On an average, twenty-five boys pass the *Abiturientenexamen* from this school every year. Here, too, as at the *Friedrich-Wilhelms Gymnasium*, the number of free posts is ten per cent. They are provided by the municipality. The school gets a grant of about £100 a year from the State and £1,000 a year from the city of Berlin.

By original foundation and by endowment this school too is Protestant. Hardly any Catholic boys are here, but of Jewish boys there are seventy or eighty. About a third of the

whole number of the scholars are *Auswärtige;* boys who came from a distance, and cannot, therefore, live with their parents. The great *internats* of the French *lycées* are unknown in Germany; the *Alumnate* or *Convicte* of the German schools are properly establishments like *college* at Eton or Winchester, and are for foundationers; for establishments like the School House and the masters' boarding-houses at Rugby, or Commoners at Winchester, the strict designation would in Germany be *Pensionat, Pensionsanstalt,* and not *Alumnat.* The practice of having one's son live at home and go to school for his lessons only, obtains much more widely in Germany than with us; 40,000 of the 66,000 boys in the Prussian higher schools are day scholars. Still this leaves 26,000 who are not; and of these the vast majority live with some respectable family in the place where they go to school. The household with which their son is to board or lodge is designated by the parent, but must, by the school regulations of Prussia, be approved

by the director of the boy's school, who holds the householder responsible for the boy's conduct out of school. The family life in North Germany is in general decent, kindly, and God-fearing; and a boy is, I think, much better placed as a boarder in this way than as an *interne* of a French *lycée*. Still the school authorities in Prussia are of opinion that the provision of boarding establishments in immediate connection with the public schools needs increasing, and they design to increase it.

The patron at Greyfriars, for matters that do not come within the province of the *Directorium* of Streit's charity, is still, as the elector John George originally appointed, the city of Berlin, the municipality. The reader will remember that for the *interna* of a Prussian gymnasium the intervention of a Provincial Board always subsists.

I must give a word in passing to the great *Alumnat* of Berlin, the *Joachimsthalsche Gymnasium*. Here I found 404 scholars; 120 of them were collegers (*Alumnen*), 12 were boarders in

the establishment (*Pensionaire*); the rest were the boys who came for the lessons only (*Hospiten*). Ten per cent of these have free schooling. The *Pensionaire* pay only £24 a year; the *Alumnen* are not all of them free of all cost; 25 of them pay £8 14*s*. a year; 75 of them pay £4 10*s*. There are 20 places with board, lodging, and instruction all entirely free, for 20 proved scholars of the highest forms.

The *Joachimsthalsche Gymnasium* is a royal foundation, endowed with lands by the elector Joachim Frederick in 1607. It is Protestant. The school has now an income of over £3,000 a year from land, and of over £2,000 a year from money in the funds. The Crown is the patron; the property is administered, owing to its connection with the Crown domain, by the *Regierung* at Potsdam.

This is an interesting school, for the list of its masters contains the names of Buttmann, Schneider, Passow, Zumpt, Krüger, and Bergk. The director is Dr. Kiessling, a son of the editor of Theocritus. Constantly in the rolls

of the German schools one is coming upon a well-known name of this kind; on the roll of former teachers at Greyfriars are to be found the names of Heindorf, Spalding, Droysen. Nor are other recollections, as interesting as any school in the world can boast, wanting to the Prussian schools. The Joachimsthal School had a scholar of *quarta* who, like so many German schoolboys, joined the army in the great uprising against the French in 1813. This boy was wounded at Leipzig, made the campaign of France, was at Waterloo, received the decoration of the Iron Cross, and, finally, with the decoration on his breast, took his place again on his old school-bench as a scholar of *quarta*.

But no *Alumnat* in Prussia, or indeed in Germany, can compare with Schulpforta, which by its antiquity, its beauty, its wealth, its celebrity, is entitled to vie with the most renowned English schools. The Cistercian abbey of St. Mary's, Pforta, dates from 1137. It was secularised in 1540; and Duke Maurice

of Saxony, in 1543, established in its place and endowed with its revenues a Protestant school for 100 scholars. It stands near the Saal, in the pleasant country of Prussian Saxony; and the venerable pile of buildings rising among its meadows, hills, and woods, is worthy of the motto borne on the arms of the old abbey: '*Hier ist nichts anderes denn Gottes Haus, und hier die* Pforte *des Himmels.*'* It has a beautifully restored chapel, regular commemorative services, and a host of local usages. A Latin grace is sung in hall every day before dinner by the whole body of scholars. Every scholar has by ancient institution his *tutor*, every master his *famulus*. This is the German school where Latin verse has been most cultivated, and the *Musæ Portenses*, like those of Eton, have been published.

The property is very large, and considerable Church patronage is attached to it. Up to 1815, when it passed into the possession of

* 'This is none other but the house of God, and this is the gate (*porta*, *Pforte* of heaven.'—*Gen.* xxviii. 17.

Prussia, the old abbey estate had still its feudal privileges, and enjoyed full civil and criminal jurisdiction. The property is now entirely under the superintendence of the School Board of the province of Saxony, which appoints a procurator for it. The revenues of Pforta are from £8,000 to £9,000 a year.

The great head-master of Schulpforta was Ilgen, whose name every one who has read the Homeric Hymns ought to respect. Ilgen was rector for nearly thirty years, from 1802 to 1831, and his reforms make this period an epoch in the school's history. Few schools can show such a list of old scholars. Grævius, Ernesti, Klopstock, Böttiger, Mitscherlich, Fichte, Dissen, Thiersch, Spitzner, Döderlein, Spohn, were all of them schoolboys here.

There are now about 205 pupils: 180 *Alumnen* proper, or collegers, 20 boarders (*Pensionaire, Extraneer*), and four or five half-boarders (*Semi-Extraneer*). These half-boarders have,

in fact, all the advantages of collegers, except board, for a payment of £7 10*s.* a year; their board they get at a master's. The real *Extraneer* board and lodge with a master; they pay to him about £45 a year for their board and lodging, and to the school £5 8*s.* a year for their instruction.

The *Alumnen* proper have all of them certain payments to make; those exacted, however, from the 140 who hold *Freistellen* are very trifling. There are 30 old *Koststellen*, or posts with board, the holders of which pay about £3 a year each, and 20 new *Koststellen*, the holders of which pay £7. As a general rule, a boy is not admitted at once to a *Freistelle*. The right of nominating to about half the posts on the foundation belongs to the Crown, that to the other half to different municipalities. Of the Crown appointments a certain number is reserved, by convention with the Saxon Government when Pforta passed into Prussia's possession, for natives of the duchy of Saxony. The rest are given, on grounds of public claim,

by the Minister of Justice and the Home Secretary. No boy is admitted till he is twelve years old; he must be able to pass for *tertia*. The school begins with *tertia*, but it has six forms, because there is an upper and a lower division of each class. There are 77 boys in the two divisions of *tertia*, 79 in the two of *secunda*, 49 in the two of *prima*. For some of the posts several boys are nominated, and the one who passes the best examination gets admitted; but the candidates here, the English reader will observe, must all of them be over twelve years of age. The school is well provided with exhibitions, in general of from £10 to £15 a year in value, to the universities.

There is a noteworthy usage here of making one day in the week a *Studientag*, in which the boy is free from all school lessons that he may pursue his private studies. In the same spirit, in the *Gymnasien* generally, promising boys in *prima* are excused certain of the school lessons, that they may work at matters which specially interest them. Results of this private

study are to be produced at the *Abiturienten-examen*, and are taken into account for the leaving certificate. Nothing could better show the freedom of Germany, as compared with France, in treating school matters, than a practice of this kind, which to the French authorities would appear monstrous. In England the school authorities would have a belief, in general too well justified, that hardly any one of our boys has any notion of such a thing as systematic private study at all.

At Schulpforta they are very proud of their playing-field, which is indeed, with the wooded hill rising behind it, a pleasant place; but the games of English playing-fields do not go on there: instead of goals or a cricket-ground, one sees apparatus for gymnastics. The Germans, as is well known, now cultivate gymnastics in their schools with great care. Since 1842, gymnastics have been made a regular part of the public-school course; there is a *Central-Turnanstalt* at Berlin, with 18 civilian pupils who are being trained expressly to sup-

ply model teachers of gymnastics for the public schools. The teachers profess to have adapted their exercises with precision to every age, and to all the stages of a boy's growth and muscular development. The French are much impressed by what seems to them the success of the Germans in this kind of instruction, and certainly in their own *lycées* they have not at present done nearly so much for it. Nothing, however, will make an ex-school boy of one of the great English schools regard the gymnastics of a foreign school without a slight feeling of wonder and compassion, so much more animating and interesting do the games of his remembrance seem to him. This much, however, I will say: if boys have long work-hours, or if they work hard, gymnastics probably do more for their physical health in the comparatively short time allotted to recreation than anything else could. In England the majority of public schoolboys work far less than the foreign schoolboy, and for this majority the English games are delightful;

but for the few hard students with us there is in general nothing but the *constitutional*, and this is not so good as the foreign gymnastics. For little boys, again, I am inclined to think that the carefully taught gymnastics of a foreign school are better than the lounging shiveringly about, which in my time used often at our great schools to be the portion of those who had not yet come to full age for games.

All the schools I have hitherto described are denominational schools. Before I conclude, I must describe a mixed (*simultan*) school, or the nearest approach to it to be found. Such a school is the *Friedrich-Wilhelms Gymnasium* at Cologne. Cologne, as every one knows, is Catholic; up to 1825 it had only one gymnasium, a Catholic one. In 1865, it had Catholic gymnasiums, one with 382 scholars, the other with 281; it had also a *Realschule* of the first rank, with 601 scholars. Besides these schools it had a Protestant gymnasium, with *real* classes; as we should say, with a

modern school forming part of it. This is the *Friedrich-Wilhelms Gymnasium*. An old Carmelite college, which had become the property of the municipality, was in 1825 made into a public gymnasium, in order to relieve the overcrowding in the Catholic gymnasium and to provide special accommodation for the Protestants. In 1862 this school was, by the subscriptions of friends, both Catholic and Protestant, provided with *real* classes up to *secunda*, the two lowest classes (*sexta* and *quinta*) being common to both classical and *real* scholars. There are, therefore, in fact three special classes for *real* scholars; or as we should say, a modern school of three classes. There are 356 boys in the classical school, and about 100 in the modern school. Of the boys in the classical school, 125 only are Protestants, though the school is by foundation *evangelisch*; 215 are Catholics and 16 are Jews. Nothing could better show how little the 'religious difficulty' practically exists in Prussian schools than this abundance of Catholic scholars in a

Protestant school, where the director and the majority of the 15 masters are Protestants. The regular religious instruction of the school is of course Protestant; but the Catholics being in such numbers, a special religious instructor has been provided for them, as, too, there is a special religious instructor provided for the Protestants in the two Catholic gymnasiums. It will be remembered that where the boys, not of the confession for which the school is founded, are very few in number, the parents have to make private arrangements for their religious instruction, and the school does not provide it. The school fee is from 18 to 22 thalers a year, according to the form a boy is in.

The property of the school brings in less than £200 a year. The State contributes about £900 a year. School fees produce almost exactly the same sum. The municipality gave in the first instance the school premises, and now contributes about £50 a year to keep them up. It is a Crown patronage school, but the

externa, or property concerns, of this school, as of all the gymnasiums and school endowments of Cologne, are managed by a local *Verwaltungsrath*, or council of administration. This *Verwaltungsrath* is thus composed: a representative of the Provincial School Board, the directors of the three gymnasiums, with a lawyer, a financier, an administrator, and two citizens of Cologne; these last five chosen, on the presentation of the Common Council, by the Provincial School Board. For the *Studienfonds* which are endowments general for education in Cologne, and not affected to particular institutions, a Catholic ecclesiastic is added to the *Verwaltungsrath*. These *Studienfonds* are very considerable, producing close upon 60,000 thalers a year (£9,000). The *Verwaltungsrath* has a staff of seven clerks, office-keepers, etc., and both council and staff are paid for their services.

The director was the personage already mentioned, whose nomination to a school* the Edu-

* The school was the gymnasium at Bielefeld.

cation Minister had refused to confirm, because of the nominee's politics. I had much conversation with him, and he struck me as a very able man. He said, and his presence in this Cologne school confirmed it, that the Government found it impossible to treat their school patronage politically, even so far as the directors or head-masters were concerned. The appointment of the professors and teachers, he declared, it never even entered into the Government's head to treat politically. We went through the school admission-book together, that I might see to what class in society the boys chiefly belonged. We took a class in the middle of the school, and went through this boy by boy, both for the classical school and the modern school. As it happened, the social standing of the *real* scholars was on the whole somewhat the highest, but there was very little difference. There were a few peasants' children, picked boys from the elementary schools in the neighbourhood, but these were all of them bursars. There were a good many sons of

Government officials. But the designation I found attached to by far the greater number of parents' names was *Kaufmann*—'trader.' I heard several lessons, and particularly noticed the English lesson in the third class of the modern school. This lesson was given by a Swiss, who spoke English very well, and who had been, he told me, a teacher of modern languages at Uppingham. I thought here, as I thought when I heard a French lesson at Bonn, that the boys made a good deal more of these modern language lessons in Germany than in England; the Swiss master at Cologne said this impression of mine was quite right. Even in France I thought these lessons better done, —with better methods, better teachers, and more thoroughly learned,—than in England. In Germany they were better than in France. The lessons in the natural sciences, on the other hand, which in France seemed to me inferior to the mathematical lessons, I thought less successfully given in Germany than even in France. But of this matter I am a very in-

competent judge, and England, besides, supplied me here with no standard of comparison, for in the English schools, when I knew them, the natural sciences were not taught at all. The classical work in the Cologne gymnasium was much the same that I had seen in other Prussian gymnasiums, and calls for no particular remark.

Dr. Jäger, the director of the united school, —well placed, therefore, for judging, and, as I have said, an able man,—assured me it was the universal conviction with those competent to form an opinion that the *Realschulen* were not, at present, successful institutions. He declared that the boys in the corresponding forms of the classical school beat the *Realschule* boys in matters which both do alike, such as history, geography, the mother-tongue, and even French, though to French the *Realschule* boys devote so far more time than their comrades of the classical school. The reason for this, Dr. Jäger affirms, is that the classical training strengthens a boy's mind so much more.

This is what, as I have already said, the chief school authorities everywhere in France and Germany testify: I quote Dr. Jäger's testimony in particular, because of his ability and because of his double experience. In Switzerland you do not hear the same story, but the regnant Swiss conception of secondary instruction is, in general, not a liberal but a commercial one; not culture and training of the mind, but what will be of immediate palpable utility in some practical calling, is there the chief matter; and this cannot be admitted as the true scope of secondary instruction. Even in Switzerland, too, there is a talk of introducing Latin into the *Realschule* course, which at present is without it; so impossible is it to follow absolutely the commercial theory of education without finding inconvenience from it. But I reserve my remarks on this question for my conclusion.

CHAPTER VII.

SUPERIOR OR UNIVERSITY INSTRUCTION IN PRUSSIA.

Passage from Secondary to Superior Instruction—Special Schools and Universities—Universities of Prussia—Proportion of University Students to Population—German Universities State Establishments—University Authorities—University Teachers—1. Full Professors—2. Assistant Professors—3. Privatdocenten—Students—Fees—Certificates of Attendance at Lectures—Degrees—The Staatsprüfung—Character of the German University System.

THE secondary school has essentially for its object a general liberal culture, whether this culture is chiefly pursued through the group of aptitudes which carry us to the humanities, or through the group of aptitudes which carry us to the study of nature. It is a mistake to

make the secondary school a direct professional school, though a boy's aims in life and his future profession will naturally determine, in the absence of an overpowering bent, the group of aptitudes he will seek to develope. It is the function of the special school to give a professional direction to what a boy has learnt at the secondary school, at the same time that it makes his knowledge, as far as possible, systematic,—developes it into science. It is the function of the university to develope into science the knowledge a boy brings with him from the secondary school, at the same time that it directs him towards the profession in which his knowledge may most naturally be exercised. Thus, in the university, the idea of science is primary, that of the profession secondary; in the special school, the idea of the profession is primary, that of science secondary. Our English special schools have yet to be instituted, and our English universities do not perform the function of a university, as that function is above laid down.

Still we have, like Germany, great and famous universities, and those universities are, as in Germany, in immediate connection with our chief secondary schools. It will be well, therefore, to complete my sketch of the Prussian school system by a sketch of the university system with which it is co-ordered.

Prussia had, in 1865, six complete universities, with all the four faculties of theology, law, medicine, and philosophy; and two incomplete universities, with only the faculties of theology and philosophy. The complete universities were Berlin, Bonn, Breslau, Greifswald, Halle, and Königsberg; the incomplete ones, Münster and Braunsberg. In both of these last the faculty of theology is Catholic.

These eight Prussian universities had, in 1864, 6,362 students and 600 professors. But this number does not represent the number of Prussians who come under university instruction, because many Prussians go to German universities out of Prussia, such as Heidelberg, Göttingen, Leipzig, Jena. There is very free

circulation of the German students through the universities of the fatherland; and to estimate the proportion, in any German State, who come under superior instruction, the fairest way is to take the proportion which the whole number of students in Germany bears to the whole population. For else, while we get for Prussia but about one student to every 2,800 inhabitants, we shall get for Baden, and for the three Saxon duchies, Weimar, Coburg, and Altenburg, about one student to every 1,100 inhabitants; yet it is not that in these territories more of the population go to the university than in Prussia, but Baden has the University of Heidelberg, and the three Saxon duchies have in common the University of Jena, and to these two universities students from all parts of Germany come. Taking, therefore, the whole of Germany, exclusive of the non-German States of Austria, we get about one matriculated student for every 2,600 of population; and this proportion is probably pretty near the truth for Prussia, and for most of the single States. In England the pro-

portion is about one matriculated student to every 5,800 of the population.

The universities of the several German States differ in many points of detail, but in their main system and regulations they are alike. I shall continue, in speaking of universities, to have Prussia in immediate view; but the English reader will understand that what I say of the Prussian university system may be applied in general to that of all Germany.

The German university is a State establishment, and is maintained, so far as its own resources fall short, by the State. A university's own resources are both the property it has and the fees it levies. The two most important of the Prussian universities, Berlin with its 2,500 students and Bonn with its 1,000, date from this century, and foundations of this century are seldom very rich in property. For the year 1864, the income of the University of Berlin was 196,787 thalers (£29,518); of this sum, the real and funded property of the university produced 161 thalers, fees produced

7,557 thalers. The State gave all the rest,—189,069 thalers (about £28,842). And the State which does this is the most frugal and economical State in Europe.

The Minister of Public Instruction appoints the professors of a university, the academical senate having the right of proposing names for his acceptance; and he has also his representative in each university,—the *curator*,—who acts as plenipotentiary for the State, and whose business it is to see to the observance of the laws and regulations which concern the universities. Thus, for instance, a full professor (*Professor ordinarius*) is bound by regulation to give throughout the *Semester*, or half year, at least two free lectures a week on his subject; if he tried to charge fees for them, it would be the curator's business to interfere. And the university authorities cannot make new regulations for the government of the university without obtaining for them the sanction of the minister and of Parliament. Still the university authorities practically work, in Germany just as

much as in this country, their own university; the real direction of the university is in their hands, and not, as in France, in those of the minister.

These university authorities are the following. First comes the rector, or, in cases where the sovereign is the titular rector, as at Halle and Jena, the pro-rector, who answers to our vice-chancellor; only he is elected for one year only, instead of four. His electors are the full professors. The rector or pro-rector is the visible head of the university, and is charged with its discipline. Like our vice-chancellor, he has an assessor, or judge, who sits with him whenever there is a question of inflicting fines, or whenever one of the parties appearing before him is not a member of the university. The academical senate is also chosen by the full professors, and for one year; its members consisting of the actual rector (or pro-rector), the outgoing rector, and a full professor of each faculty. In some universities all the full professors are members of the academical senate. The rector

is president, and the internal affairs of the university are brought before it for its discussion and regulation.

Next come the faculties. The faculties in nearly all German universities are four in number;* theology, law, medicine, and philosophy. Philosophy embraces the humanities, and the mathematical and natural sciences. As a university authority, a faculty consists only of its full professors, headed by the dean, whom these professors elect for one year. It is the business of the faculty thus composed to see that the students attend regularly the courses of lectures for which they are entered, to summon defaulters before it, to reprimand them, and to inflict on them, if it think proper, a slight penalty.

The last university authority to be mentioned is the *quæstor*. He has to collect from the students the fees for the courses for which they have entered themselves, and to pay those fees

* In one or two universities there is a separate faculty for political economy; in general this science is comprehended in the faculty of philosophy.

to the professors to whom they are due, a small deduction being made for the quæstor's salary and for the university chest,

And now to take the university, not as an administrative but as a teaching body. Of the university, considered in this capacity, the *faculty* is a very different thing from the limited faculty above described. The university faculty, as a teaching body, comprehends not only all the full professors of that faculty, but all its professors extraordinary, or assistant professors, and all its *Privatdocenten*. The dean of faculty ascertains from all the full professors, all the professors extraordinary, and all the *Privatdocenten* of his faculty, what subject each one of them proposes to treat in the coming *Semester*: there is perfect liberty of choice for each lecturer, but by consent among themselves they so co-order their teaching that the whole field of instruction proper to their faculty may be completely covered. Then the dean calls together the full professors, who make the administrative faculty; and the programme of lectures is by them drawn

up from the data collected by the dean, and is promulgated by their authority.

All full professors must have the degree of doctor in their faculty. Each of them is named for a special branch of the instruction of his faculty; and in this branch he is bound, as I have said, to give at least two public lectures a week without charging fees. He receives from the State a fixed salary which is sometimes as much as £350 or even £400 a year; he has also a share in the examination fees, and he has the fees for what lectures he gives besides his public lectures. The regular number of full professors in each university is limited, but the State can always, if it thinks fit, nominate an eminent man as full professor in a faculty, even though the faculty may have its complement of full professors; and the State then pays him the same salary as the other full professors. Both from the consideration which attaches to the post and from its emolument, a full professor's place is in Germany the prize of the career of public instruction, and no schoolmaster's place

can compare with it. At Heidelberg several professors have, I am told, an income, from fixed salary and fees together, of £1,000 a year, and one an income of £1,500.

The professors extraordinary, or assistant professors, are also named by the State, but they have not in all cases a fixed salary. Their main dependence is on fees paid by those who come to their lectures. They are in general taken from the most distinguished of the *Privatdocenten*, and they rise through the post of professor extraordinary to that of full professor.

Other countries have full professors and professors extraordinary. France, for instance, has her *professeurs titulaires* and her *professeurs suppléants*; but the *Privatdocent* is peculiar to Germany, and is the great source of vigour and renovation to her superior instruction. Sometimes he gives private lessons, like the private tutors of our universities; these lessons have the title of *Privatissima*. But this is not his main business. His main business is as unlike the sterile business of our private tutors as pos-

sible. The *Privatdocent* is an assistant to the professorate; he is free to use, when the professors do not occupy them, the university lecture-rooms, he gives lectures like the professors, and his lectures count as professors' lectures for those who attend them. His appointment is on this wise. A distinguished student applies to be made *Privatdocent* in a faculty. He produces certain certificates and performs certain exercises before two delegates named by the faculty, and this is called his *Habilitation*. If he passes, the faculty names him *Privatdocent*. The authorisation of the minister is also requisite for him, but this follows his nomination by the faculty as a matter of course. He is then free to lecture on any of the matters proper to his faculty. He is on his probation, he receives no salary whatever, and depends entirely on his lectures; he has, therefore, every motive to exert himself. In general, as I have said, the professors and *Privatdocenten* arrange together to parcel out the field of instruction between them, and one supplements the other's teaching; still

a *Privatdocent* may, if he likes, lecture on just the same subject that a professor is lecturing on; there is absolute liberty in this respect. The one precaution taken against undue competition is, that a *Privatdocent* lecturing on a professor's subject is not allowed to charge lower fees than the professor. It does honour to the disinterested spirit in which science is pursued in Germany, that with these temptations to competition the relations between the professors and the *Privatdocenten* are in general excellent; the distinguished professor encourages the rising *Privatdocent*, and the *Privatdocent* seeks to make his teaching serve science, not his own vanity. But it is evident how the neighbourhood of a rising young *Privatdocent* must tend to keep a professor up to the mark, and hinder him from getting sleepy and lazy. If he gets sleepy and lazy, his lecture-room is deserted. The *Privatdocent*, again, has the standard of eminent men before his eyes, and everything stimulates him to come up to it.

In the faculty of philosophy at Berlin the

number of *Privatdocenten* is almost exactly the same as the number of full professors. There are 28 full professors and 29 *Privatdocenten*. The professors extraordinary are more numerous than either. They are 33 in number. The whole number of teachers in the University of Berlin is 183.*

Now I come to the students. The university course in theology, law, and philosophy, takes three years; in medicine it takes four or five. A student in his *triennium* often visits one or two universities, seldom more. Lachmann (to take an eminent instance) first went for half a year to Leipzig to hear Hermann; then he passed on to Göttingen, where he afterwards got his *Habilitation*. To become a member of a university, the student has to be entered on the university register (*Matrikel*), and then on the register of the faculty in which he means to follow lectures; for inscription on the university register the production of the school leaving

* All these numbers relate to the year 1864. For full details respecting the provision of teaching in the University of Berlin, see the appendix.

certificate (*Maturitätszeugniss*), of which I have already said so much, is indispensable. You may get leave to attend lectures without being a member of the university, and without any school certificate; but such attendance counts nothing for any purpose for which a university course is by law or official rule required. The university entrance fee is about 18*s*. The matriculating student signs an engagement to observe the laws and regulations of the university. The penalties for violating them are enforced by the rector. These penalties are, according to the nature of the offence, reprimand; fine; imprisonment for a period not exceeding one month in the university *carcer; consilium abeundi*, or dismissal from the particular university to which the student belongs, but with liberty to enter at another; and finally, *Relegation*, or absolute expulsion, notice being sent to the other universities, which then may not admit the student expelled.

The lecture fees range from 16*s*. to £1 14*s*. for every course which is not a public and gra-

tuitous one. They are somewhat higher at Berlin than in most German universities. In the faculty of medicine they are highest; here they go up as high as £1 14*s.* a *Semester* for a course of about five hours a week. A course of the same length in theology or philosophy costs at Berlin about 17*s.* a *Semester*. The fees are collected, as I have said, by the university quæstor, and they must be paid in advance. But every professor has the power to admit poor auditors to his lectures without fee, and often he does so. Poor students are also, by a humane arrangement, suffered to attend lectures on credit, and afterwards, when they enter the public service,—which in Prussia means not only what we in England call the public service, but the learned professions as well,—their lecture fees are recovered by a deduction from their salary. Each university has besides, for the benefit of poor scholars, a number of exhibitions ranging from £12 to £60 a year; and it is common to allow the holders of school exhibitions—which are of smaller amount, and range from

£6 to £30 a year,—to retain them at the university.

Certificates of having followed certain courses of lectures are required both for the university degree and for the subsequent examination for a public career (*Staatsprüfung*) which almost every university student has in view. It is said that the professors whose lectures are very numerously attended have difficulty in ascertaining who is there and who is not, and that they give the certificates with too much laxity. In general, however, it is certain that a student who has his way to make, and who is worth anything, will attend regularly the lectures for which he has entered himself and paid his money. There are, of course, many idlers; the proportion of students in a German university who really work I have heard estimated at one-third; certainly it is larger than in the English universities. But the pressure put upon them in the way of compulsion and university examinations is much less than with us. The paramount university aim in Germany is to

encourage a love of study and science for their own sakes; and the professors, very unlike our college tutors, are constantly warning their pupils against *Brodstudien*, studies pursued with a view to examinations and posts. The examinations within the university course itself are far fewer and less important in Germany than in England. It is Austria, a country which believes in the things of the mind as little as we do, which is the great country for university examinations. There they are applied with a mechanical faith much like ours, and come as often as once a month; but the general intellectual life of the Austrian universities is lower, though Vienna and Prague are good medical schools, than that of any other universities of Germany. "Le pays à examens, l'Autriche,"—exclaims an eminent French professor, M. Laboulaye, who has carefully studied the German university system with a view to reforming that of France,—"Le pays à examens, l'Autriche, est précisément celui dans lequel on ne travaille pas;" and every competent authority in Germany

will confirm what M. Laboulaye says. I do not say that in countries like Austria and England, where there is so little real love for the things of the mind, examinations may not be a protection from something worse.* All I say is that a love for the things of the mind is what we want, and that examinations will never give it.

Each faculty in a German university examines for degrees in that faculty and confers them. The *Maturitätszeugniss* which the student brings with him from school answers to our grade of bachelor of arts. The degree of licentiate, answering to our degree of master, is only given in theology and philosophy, and is not often sought for. The great faculty degree is the degree of doctor. For this a certificate of university studies, an oral examination, and a written dissertation, are required. The dissertation is in Latin or German, and is usually published. A doctor's degree in philosophy costs £17 at Berlin; there are faculties and univer-

* Although I am no very ardent lover of examinations, I am inclined to think the non-Austrian universities of Germany might with advantage make a somewhat greater use of them.

sities in which a doctor's degree costs as much as £22 10*s*. A poor student who passes a brilliant examination has sometimes his degree given him without fees. I have already said that the degree of doctor is given much more easily and carelessly in some German universities than in others. But in none is the degree examination in itself such as to make it what the degree examination is with us—the grand final cause of the university life. "Der Zweck des Lebens ist das Leben selbst," says the German poet; and this is certainly true, in Germany, of the university life.

The *Staatsprüfung*, however, supplies a bracing examination test; but this examination falls outside the sphere of the University itself. As I have again and again begged the English reader to remark, the examination test is never used in Prussia as sufficient in itself; it is only used to make the assurance of a really good education doubly sure; the really good education is regarded as the main assurance, and no one who has not had this may present himself

for the *Staatsprüfung*. The student who leaves a university receives from the rector a certificate mentioning what lectures he has attended, and what the character of his university career has been. With this certificate, and with the leaving certificate of his school, the future civil servant, clergyman, lawyer, or doctor, presents himself before an examining commission (*Prüfungscommission*) such as I have described in an earlier part of this volume. He is then examined, having three or four days of paper work, and six or eight hours of *vivâ voce*. For lawyers and for clergymen there is a double examination, the second coming three years after the first.

Such, sketched in the briefest possible outline, is the system of the German universities. *Lehrfreiheit* and *Lernfreiheit*, liberty for the teacher and liberty for the learner; and *Wissenschaft*, science, knowledge systematically pursued and prized in and for itself, are the fundamental ideas of that system. The French, with their ministerial programmes for

superior instruction, and their ministerial authorisations required for any one who wants to give a course of public lectures,—authorisations which are by no means a matter of form,—are naturally most struck with the liberty of the German universities, and it is in liberty that they have most need to borrow from them. To us, ministerial programmes and ministerial authorisations are unknown ; our university system is a routine, indeed, but it is our want of science, not our want of liberty, which makes it a routine. It is in science that we have most need to borrow from the German universities. The French university has no liberty, and the English universities have no science ; the German universities have both.

CHAPTER VIII.

GENERAL CONCLUSION. SCHOOL STUDIES.

Probable Issue of the Conflict between Classical and Real Studies—New Conception of the Aim and Office of Instruction—The Circle of Knowledge takes in both the Humanities and the Study of Nature—This not enough recognised at present—Tyranny of the Humanists—Tyranny of the Realists—Our Present School-Course—How to Transform it—Excessive Preponderance of Grammatical Studies, and of Latin and Greek Composition—The Ancient Languages to be more Studied as Literature—And the Modern Languages likewise—Summing up of Conclusions.

In what has been said, two points, above all, suggest matter for reflection: the course of study of foreign schools, and the way in which these schools are established and administered. I begin with the first.

Several times in the foregoing chapters I have touched upon the conflict between the gymnasium and the *Realschule*, between the partisans of the old classical studies and the partisans of what are called real, or modern, or useful studies. This conflict is not yet settled, either by one side crushing the other by mere violence, or by one side clearly getting the best of the other in the dispute between them. We in England, behindhand as our public instruction in many respects is, are nevertheless in time to profit, and to make our schools profit, by the solution which will certainly be found for this difference. I am inclined to think that both sides will, as is natural, have to abate their extreme pretensions. The modern spirit tends to reach a new conception of the aim and office of instruction; when this conception is fully reached, it will put an end to conflict, and will probably show both the humanists and the realists to have been right in their main ideas.

The aim and office of instruction, say many people, is to make a man a good citizen, or a good Christian, or a gentleman; or it is to fit him to get on in the world, or it is to enable him to do his duty in that state of life to which he is called. It is none of these, and the modern spirit more and more discerns it to be none of these. These are at best secondary and indirect aims of instruction; its prime direct aim is to enable a man *to know himself and the world*. Such knowledge is the only sure basis for action, and this basis it is the true aim and office of instruction to supply. To know himself, a man must know the capabilities and performances of the human spirit; and the value of the humanities, of *Alterthumswissenschaft*, the science of antiquity, is, that it affords for this purpose an unsurpassed source of light and stimulus. Whoever seeks help for knowing himself from knowing the capabilities and performances of the human spirit will nowhere find a more fruitful object of study than in the achievements of Greece in literature

and the arts during the two centuries from the birth of Simonides to the death of Plato. And these two centuries are but the flowering-point of a long period, during the whole of which the ancient world offers, to the student of the capabilities and performances of the human spirit, lessons of capital importance.

This the humanists have perceived, and the truth of this perception of theirs is the stronghold of their position. It is a vital and formative knowledge to know the most powerful manifestations of the human spirit's activity, for the knowledge of them greatly feeds and quickens our own activity; and they are very imperfectly known without knowing ancient Greece and Rome. But it is also a vital and formative knowledge to know the world, the laws which govern nature, and man as a part of nature. This the realists have perceived, and the truth of this perception, too, is inexpugnable. Every man is born with aptitudes which give him access to vital and formative knowledge by one of these roads; either by the

road of studying man and his works, or by the road of studying nature and her works. The business of instruction is to seize and develope these aptitudes. The great and complete spirits which have all the aptitudes for both roads of knowledge are rare. But much more might be done on both roads by the same mind, if instruction clearly grasped the idea of the entire system of aptitudes for which it has to provide; of their correlation, and of their *equipollency*, so to speak, as all leading, if rightly employed, to vital knowledge; and if then, having grasped this idea, it provided for them. The Greek spirit, after its splendid hour of creative activity was gone, gave our race another precious lesson, by exhibiting, in the career of men like Aristotle and the great students of Alexandria, this idea of the correlation and equal dignity of the most different departments of human knowledge, and by showing the possibility of uniting them in a single mind's education. A man like Eratosthenes is memorable by what he performed,

but still more memorable by his commanding range of studies, and by the broad basis of culture out of which his performances grew. As our public instruction gets a clearer view of its own functions, of the relations of the human spirit to knowledge, and of the entire circle of knowledge, it will certainly more learn to awaken in its pupils an interest in that entire circle, and less allow them to remain total strangers to any part of it. Still, the circle is so vast and human faculties are so limited, that it is for the most part through a single aptitude, or group of aptitudes, that each individual will really get his access to intellectual life and vital knowledge; and it is by effectually directing these aptitudes on definite points of the circle, that he will really obtain his comprehension of the whole.

Meanwhile neither our humanists nor our realists adequately conceive the circle of knowledge, and each party is unjust to all that to which its own aptitudes do not carry it. The humanists are loth to believe that man has any

access to vital knowledge except by knowing himself,—the poetry, philosophy, history which his spirit has created; the realists, that he has any access except by knowing the world,—the physical sciences, the phenomena and laws of nature. I, like so many others who have been brought up in the old routine, imperfectly as I know letters,—the work of the human spirit itself,—know nothing else, and my judgment therefore may fairly be impeached. But it seems to me that so long as the realists persist in cutting in two the circle of knowledge, so long do they leave for practical purposes the better portion to their rivals, and in the government of human affairs their rivals will beat them. And for this reason. The study of letters is the study of the operation of human force, of human freedom and activity; the study of nature is the study of the operation of non-human forces, of human limitation and passivity. The contemplation of human force and activity tends naturally to heighten our own force and activity; the contemplation of human

limits and passivity tends rather to check it. Therefore the men who have had the humanistic training have played, and yet play, so prominent a part in human affairs, in spite of their prodigious ignorance of the universe; because their training has powerfully fomented the human force in them. And in this way letters are indeed *runes*, like those magic runes taught by the Valkyrie Brynhild to Sigurd, the Scandinavian Achilles, which put the crown to his endowment and made him invincible.

Still, the humanists themselves suffer so much from the ignorance of physical facts and laws, and from the inadequate conception of nature, and of man as a part of nature,—the conduct of human affairs suffers so much from the same cause,—that the intellectual insufficiency of the humanities, conceived as the one access to vital knowledge, is perhaps at the present moment yet more striking than their power of practical stimulation; and we may willingly declare with the Italians* that no

* 'Essendo diverse le parti dell'insegnamento, nessuno mostri di

part of the circle of knowledge is common or unclean, none is to be cried up at the expense of another. To say that the fruit of classics, in the boys who study them, is at present greater than the fruit of the natural sciences, to say that the realists have not got their matters of instruction so well adapted to teaching purposes as the humanists have got theirs, comes really to no more than this: that the realists are but newly admitted labourers in the field of practical instruction, and that while the leading humanists, the Wolfs and the Buttmanns, have been also schoolmasters, and have brought their mind and energy to bear upon the school-teaching of their own studies, the leaders in the natural sciences, the Davys and the Faradays, have not. When scientific physics have as recognized a place in public instruction as Latin and Greek, they will be as well taught.

spregiare le altre, esaltando troppo quella cui è addetto. Nessun ramo del sapere è meno necessario; di tutte le scienze si avvantaggia l'umana società; tutte cospirano al suo bene.'—Matteucci.

The Abbé Fleury, than whom no man is a better authority, says of the mediæval universities, the parents of our public secondary schools: 'Les universités ont eu le malheur de commencer dans un temps où le goût des bonnes études était perdu.' They were too late for the influences of the great time of Christian literature and eloquence, the first five centuries after Christ; they were even too late for the influences of the time of Abelard and Saint Bernard. And Fleury adds: 'De là (from these universities founded in a time of inferior insight) nous est venu ce cours réglé d'études qui subsiste encore.' He wrote this in 1708, but it is in the main still true in 1867. All the historical part of this volume has shown that the great movements of the human spirit have either not got hold of the public schools, or not kept hold of them. What reforms have been made have been patchwork, the work of able men who into certain departments of school study which were dear to them infused reality and life, but who looked little

beyond these departments, and did not concern themselves with fully adjusting instruction to the wants of the human mind. There is, therefore, no intelligent tradition to be set aside in our public schools; there is only a routine, arising in the way we have seen, and destined to be superseded as soon as ever that more adequate idea of instruction, of which the modern spirit is even now in travail, shall be fully born.

That idea, so far as one can already forecast its lineaments, will subordinate the matter and methods of instruction to the end in view;—the end of conducting the pupil, as I have said, through the means of his special aptitudes, to a knowledge of himself and the world. The natural sciences are a necessary instrument of this knowledge; letters and *Alterthumswissenschaft* are a necessary instrument of this knowledge. But if school instruction in the natural sciences has almost to be created, school instruction in letters and *Alterthumswissenschaft* has almost to be created anew. The prolonged

philological discipline, which in our present schools guards the access to *Alterthumswissenschaft,* brings to mind the philosophy of Albertus Magnus, the mere introduction to which,—the logic,—was by itself enough to absorb all a student's time of study. To combine the philological discipline with the matter to which it is ancillary,—with *Alterthumswissenschaft* itself,—a student must be of the force of Wolf, who used to sit up the whole night with his feet in a tub of cold water and one of his eyes bound up to rest while he read with the other, and who thus managed to get through all the Greek and Latin classics at school, and also Scapula's Lexicon and Faber's Thesaurus; and who at Göttingen would sweep clean out of the library-shelves all the books illustrative of the classic on which Heyne was going to lecture, and finish them in a week. Such students are rare; and nine out of ten, especially in England, where so much time is given to Greek and Latin composition, never get through the philological vestibule at all, never arrive at *Alterthums-*

wissenschaft, which is a knowledge of the spirit and power of Greek and Roman antiquity learned from its original works.

But many people have even convinced themselves that the preliminary philological discipline is so extremely valuable as to be an end in itself; and, similarly, that the mathematical discipline preliminary to a knowledge of nature is so extremely valuable as to be an end in itself. It seems to me that those who profess this conviction do not enough consider the quantity of knowledge inviting the human mind, and the importance to the human mind of really getting to it. No preliminary discipline is to be pressed at the risk of keeping minds from getting at the main matter, a knowledge of themselves and the world. Some minds have such a special aptitude for philology, or for pure mathematics, that their access to vital knowledge and their genuine intellectual life lies in and through those studies; but for one whose natural access to vital knowledge is by these paths, there will be ten whose natural

access to it is through literature, philosophy, history, or through some one or more of the natural sciences. No doubt it is indispensable to have exact habits of mind, and mathematics and grammar are excellent for the promotion of these habits; and Latin, besides having so large a share in so many modern languages, offers a grammar which is the best of all grammars for the purpose of this promotion. Here are valid reasons for making every schoolboy learn some Latin and some mathematics, but not for turning the preliminary matter into the principal, and sacrificing every aptitude except that for the science of language or of pure mathematics. A Latin grammar of thirty pages, and the most elementary treatise of arithmetic and of geometry, would amply suffice for the uses of philology and mathematics as a universally imposed preparatory discipline. By keeping within these strict limits, absolute exactness of knowledge,—the habit which is here our professed aim,—might be far better attained than it is at present. But is well to insist,

besides, that all knowledge may and should, when we have got fit teachers for it, be so taught as to promote exact habits of mind; and we are not to take leave of these when we pass beyond our introductory discipline.

But it is sometimes said that only through close philological studies and the close practice of Greek and Latin composition, can *Alterthumswissenschaft* itself, the science of the ancient world, be truly reached. It is said to be only through these that we get really to know Greek and Latin literature. For all practical purposes this proposition is untrue, and its untruth may be easily tested. Ask a good Greek scholar, in the ordinary English acceptation of that term, who at the same time knows a modern literature,—let us say the French literature,—well, whether he feels himself to have most seized the spirit and power of French literature, or of Greek literature. Undoubtedly he has most seized the spirit and power of French literature, simply because he has read so very much more of it. But if, instead of

reading work after work of French literature, he had read only a few works or parts of works in it, and had given the rest of his time for study to the sedulous practice of French composition and to minutely learning the structure and laws of the French language, then he would know the French literature much as he knows the Greek; he might write very creditable French verses, but he would have seized the spirit and power of French literature not half so much as he has seized them at present. No doubt it is well to know French philology like M. Littré, and to know French literature too; or to write Italian verse like Arthur Hallam, and to know Italian literature too; just as it is well to know the Greek lexicographers and grammarians as Wolf did, and yet to know, also, Greek literature in its length and breadth. But it needs a very rare student for this: and, as, if an Englishman is to choose between writing Italian sonnets and knowing Italian literature, it is better for him to know Italian literature, so, if he is to choose between

writing Greek iambics and knowing Greek literature, it is better for him to know Greek literature. But an immense development of grammatical studies, and an immense use of Latin and Greek composition, take so much of the pupil's time, that in nine cases out of ten he has not any sense at all of Greek and Latin literature as *literature*, and ends his studies without getting any. His verbal scholarship and his composition he is pretty sure in after life to drop, and then all his Greek and Latin is lost. Greek and Latin *literature*, if he had ever caught the notion of them, would have been far more likely to stick by him.

I was myself brought up in the straitest school of Latin and Greek composition, and am certainly not disposed to be unjust to them. Very often they are ignorantly disparaged. Professor Ritschl, I am told, envies the English schools their Latin verse, and he is no bad judge of what is useful for knowing Latin. The close appropriation of the models, which is necessary for good Latin or Greek composition

not only conduces to accurate and verbal scholarship; it may beget, besides, an intimate sense of those models, which makes us sharers of their spirit and power; and this is of the essence of true *Alterthumswissenschaft*. Herein lies the reason for giving boys more of Latin composition than of Greek, superior though the Greek literature be to the Latin; but the power of the Latin classic is in *character*, that of the Greek is in *beauty*. Now, character is capable of being taught, learnt, and assimilated; beauty hardly; and it is for enabling us to learn and catch some *power* of antiquity, that Greek or Latin composition is most to be valued. Who shall say what share the turning over and over in their mind, and masticating, so to speak, in early life as models of their Latin verse, such things as Virgil's

'Disce, puer, virtutem ex me, verumque laborem'—

or Horace's

'Fortuna sævo læta negotio'—

has not had in forming the high spirit of the upper class in France and England, the two

countries where Latin verse has most ruled the schools, and the two countries which most have had, or have, a high upper class and a high upper class spirit? All this is no doubt to be considered when we are judging the worth of the old school training.

But, in the first place, dignity and a high spirit is not all, or half all, that is to be got out of *Alterthumswissenschaft*. What else is to be got out of it,—the love of the things of the mind, the flexibility, the spiritual moderation, —is for our present time and needs still more precious, and our upper class suffers greatly by not having got it. In the second place, though I do not deny that there are persons with such eminent aptitudes for Latin and Greek composition that they may be brought in contact with the spirit and power of *Alterthumswissenschaft*, and thus with vital knowledge, through them,—as neither do I deny that there are persons with such eminent aptitudes for gramatical and philological studies, that they may be brought in contact with vital knowledge

through *them*,—nevertheless, I am convinced that of the hundreds whom our present system tries without distinction to bring into contact with *Alterthumswissenschaft* through composition and philology almost alone, the immense majority would have a far better chance of being brought into vital contact with it through literature, by treating the study of Greek and Latin as we treat our French, or Italian, or German studies. In other words, the number of persons with aptitudes for being carried to vital knowledge by the literary, or historical, or philosophical, or artistic sense,—to each of which senses we give a chance by treating Greek and Latin as literature, and not as mere scholarship,—is infinitely greater than the number of those whose aptitudes are for composition and philology.*

* Since the above remarks were in print they have received powerful corroboration from the eminent authority of Mr. Mill, in his inaugural address at St. Andrews. The difference of my conclusions on one or two points from Mr. Mill's only makes the general coincidence of view more conspicuous; Mr. Mill having been conducted to this view by independent reflection, and I by ob-

I cannot help thinking, therefore, that the modern spirit will deprive Latin and Greek composition and verbal scholarship of their present universal and preponderant application in our secondary schools, and will make them, as practised on their present high scale, *Privatstudien*, as the Germans say, for boys with an eminent aptitude for them. For the mass of boys the Latin and Greek composition will be limited, as we now limit our French, Italian, and German composition, to the exercises of translation auxiliary to acquiring any language soundly; and the verbal scholarship will be limited to learning the elementary grammar and common forms and laws of the language with a thoroughness which cannot be too exact, and which may easily be more exact than that which we now attain with our much

servation of the foreign schools and of the movement of ideas on the Continent.

A very interesting lecture from Mr. Farrar has still more recently come to show us this movement of ideas extending itself to the schools of England, and to distinguished teachers in the most distinguished of these schools.

more ambitious grammatical studies. A far greater quantity of Latin and Greek literature might, with the time thus saved, be read, and in a far more interesting manner. With the Latin and Greek classics, too, might be joined, as a part of the literary and humanistic course for those whose aptitude is in this direction, a great deal more of the classics of the chief modern languages than we have time for with our present system.

We have still to make the mother tongue and its literature a part of the school course; foreign nations have done this, and we shall do it; but neither foreign nations nor we have yet quite learnt how to deal, for school purposes, with modern foreign languages. The great notion is to teach them for speaking purposes, with a view to practical convenience. This notion clearly belongs to what I have called the commercial theory of education, and not the liberal theory; and the faultiness of the commercial theory is well seen by examining this notion and its fruits. Mr. Marsh, the

well-known author of the *History of the English Language*, who has passed his life in diplomacy and is himself at once a *savant* and a linguist, told me he had been much struck by remarking how, in general, the accomplishment of speaking foreign languages tends to strain the mind, and to make it superficial and averse to going deep in anything. He instanced the young dilpomatists of the new school, who, he said, could rattle along in two or three languages, but could do nothing else. Perhaps in old times the young diplomatists could neither do that nor anything else, so in their case there may be now a gain; but there is great truth in Mr. Marsh's remark that the speaking several languages tends to make the thought thin and shallow, and so far from in itself carrying us to vital knowledge, needs a compensating force to prevent its carrying us away from it. But the true aim of schools and instruction is to develop the powers of our mind and to give us access to vital knowledge.

Again: if the speaking of foreign languages

is a prime school aim, this aim is clearly best reached by sending a boy to a foreign school. Great numbers of English parents, accordingly, who from their own want of culture are particularly prone to the more obvious theory of education,—the commercial one,—send their boys abroad to be educated. Yet the basis of character and aptitudes proper for living and working in any country is no doubt best formed by being reared in that country, and passing the ductile and susceptible time of boyhood there; and in this case Solomon's saying applies admirably: '*As a bird that wandereth from her nest, so is a man that wandereth from his place.*' That, therefore, can hardly be a prime school-aim, which to be duly reached requires from the scholar an almost irreparable sacrifice. So the learning to speak foreign languages, showy as the accomplishment always is, and useful as it often is, must be regarded as a quite secondary and subordinate school-aim. Something of it may be naturally got in connection with learning the languages; and,

above all, the instructor's precept and practice in pronunciation should be sound, not, as in our old way of teaching these languages through incompetent English masters it too often was, utterly barbarous and misleading; but all this part is to be perfected elsewhere, and is not to be looked upon as true school business. It is as literature, and as opening fresh roads into knowledge, that the modern foreign languages, like the ancient, are truly school business; and far more ought to be done with them, on this view of their use, than has ever been done yet.

To sum up, then, the conclusions to which these remarks lead. The ideal of a general, liberal training is, to carry us to a knowledge of ourselves and the world. We are called to this knowledge by special aptitudes which are born with us; the grand thing in teaching is to have faith that some aptitudes of this kind everyone has. This one's special aptitudes are for knowing men,—the study of the humanities; that one's special apitudes are for knowing the

world,—the study of nature. The circle of knowledge comprehends both, and we should all have some notion, at any rate, of the whole circle of knowledge. The rejection of the humanities by the realists, the rejection of the study of nature by the humanists, are alike ignorant. He whose aptitudes carry him to the study of nature should have some notion of the humanities; he whose aptitudes carry him to the humanities should have some notion of the phenomena and laws of nature. Evidently, therefore, the beginnings of a liberal culture should be the same for both. The mother tongue, the elements of Latin and of the chief modern languages, the elements of history, of arithmetic and geometry, of geography, and of the knowledge of nature, should be the studies of the lower classes in all secondary schools, and should be the same for all boys at this stage. So far, therefore, there is no reason for a division of schools. But then comes a *bifurcation*, according to the boy's aptitudes and aims. Either the study of the humanities or

the study of nature is henceforth to be the predominating part of his instruction. Evidently there are some advantages in making one school include those who follow both these studies. It is the more economical arrangement; and when the humanistic and the real studies are in the same school, there is less likelihood of the social stamp put on the boy following the one of them being different from that put on a boy following the other. Still the *bifurcation* within one school, as practised in France, did not answer. But I think this was because the character of the one school remained so overwhelmingly humanistic, because the humanist body of teachers was in general much superior to the realist body, and because the claims of the humanities were allowed to pursue a boy so jealously into his *real* studies. In my opinion, a clever *Realschuler*, who has gone properly through the general grounding of the lower classes, is likely to develope the greater taste for the humanities the more he is suffered to follow his *real* studies without let or stint.

The ideal place of instruction would be, I think, one where in the upper classes (the instruction in the lower classes having been the same for all scholars) both humanistic and *real* studies were as judiciously prosecuted, with as good teaching and with as generous a consideration for the main aptitudes of the pupil, as the different branches of humanistic study are now prosecuted in the best German *Gymnasien*; where an attempt is certainly made, by exempting a pupil from lessons not in the direction of his aptitudes, and by encouraging and guiding him to develope these through *Privatstudien*, to break through that Procrustean routine which after a certain point is the bane of great schools. There should, after a certain point, be no cast-iron course for all scholars, either in humanistic or naturalistic studies. According to his aptitude, the pupil should be suffered to follow principally one branch of either of the two great lines of study; and, above all, to interchange the lines occasionally, following, on the line which is not his own line, such studies as have

yet some connection with his own line or, from any cause whatever, some attraction for him. He cannot so well do this if the *Gymnasium* and the *Realschule* are two totally separate schools.

His doing it at all, however, is, it will be said, only an ideal. True, but it is an ideal which the modern spirit is, more and more, casting about to realise. To realise it fully, the main thing needful is, first, a clear central conception of what one can and should do by instruction. It is, secondly, a body of teachers in all the branches of each of the two main lines of study, thoroughly masters of their business, and of whom every man shall be set to teach that branch which he has thoroughly mastered, and shall not be allowed to teach any that he has not.

CHAPTER IX.

GENERAL CONCLUSION CONTINUED. SCHOOL ESTABLISHMENT.

England and the Continent—Civil Organisation in Modern States—Civil Organisation Transformed not only in France but also in other Continental States—Not in England—A Result of this in English Popular Education—English Secondary and Superior Instruction not touched by the State—Inconveniences of this—The Social Inconvenience—The Intellectual Inconvenience—Their Practical Results—Science and Systematic Knowledge more prized on the Continent than in England—Effect of this on our Application of the Sciences, and on our Schools and Education in General—A Better Organisation of Secondary and Superior Instruction a Remedy for our Deficiencies—Public and Private Schools—Necessity for Public Schools—With Public Schools, an Education Minister Necessary—A High Council of Education Desirable—Functions of such a Council—Provincial School Boards Requisite—How to make Public Schools—Defects of our University System—Oxford and Cambridge merely *Hauts Lycées*—London University merely a Board of Examiners—Insufficient

Number of Students under Superior Instruction In England—Special Schools wanted, and a Reorganised University System, taking Superior Instruction to the Students, and not bringing these Students to Oxford and Cambridge for it—Centres of Superior Instruction to be formed in different parts of England, and Professors to be Organised in Faculties—Oxford, Cambridge, and London to remain the only Degree-Granting Bodies—Education Minister should have the Appointment of Professors—Probable Co-operation of Existing Bodies with the State in Organising this New Superior Instruction—How, when Established, it should be Employed—Final Conclusion.

I COME next to the second point for consideration: the mode of establishing and administering schools. I have now on two occasions, first in 1859 and again in 1865, had to make a close study, on the spot and for many months together, of one of the most important branches of the civil organisation of the most civilised states of the Continent. Few Englishmen have had such an experience. If the convictions with which it leaves me seem strange to many Englishmen, it is not that I am differently constituted from the rest of my countrymen, but that I have seen what would certainly give to them too, if they had seen it with their

own eyes as I have, reflections which they never had before. No one of open mind, and not hardened in routine and prejudice, could observe for so long and from so near as I observed it, the civil organisation of France, Germany, Italy, Switzerland, Holland, without having the conviction forced upon him that these countries have a civil organisation which has been framed with forethought and design to meet the wants of modern society; while our civil organisation in England still remains what time and chance have made it. The States which we really resemble, in this respect, are Austria and Rome. I remember I had the honour of saying to Cardinal Antonelli, when he asked me what I thought of the Roman schools, that for the first time since I came on the Continent I was reminded of England. I meant, in real truth, that there was the same easy-going and absence of system on all sides, the same powerlessness and indifference of the State, the same independence in single institutions, the same free course for abuses, the same

confusion, the same lack of all idea of *co-ordering* things, as the French say,—that is, of making them work fitly together to a fit end: the same waste of power, therefore, the same extravagance and the same poverty of result, of which the civil organisation of England offers so many instances. Modern States cannot either do without free institutions, or do without a rationally planned and effective civil organisation. Unlike in other things, Austria, Rome, and England are alike in this, that the civil organisation of each implies, at the present day, a denial or an ignorance of the right of mind and reason to rule human affairs. At Rome this right is sacrificed in the name of religion; in Austria, in the name of loyalty; in England, in the name of liberty. All respectable names; but none of them will in the long run save its invoker, if he persists in disregarding the inevitable laws which govern the life of modern society.

Every one is accustomed to hear that France paid the horrors of her great Revolution as the

price for having a *tabula rasa* upon which to build a new civil organisation. But what one learns when one goes upon the Continent and looks a little closely into these things, is, that all the most progressive states of the Continent have followed the example of France, and have transformed or are transforming their civil organisation. Italy is transforming hers by virtue of the great opportunity which the events of the last fifteen years have given her. Prussia transformed hers from 1807 to 1812, by virtue of the stern lesson which her disasters and humiliation had then read her. Russia is at this moment accomplishing a transformation yet more momentous. The United States of America came into the world, it may be said, with a *tabula rasa* for a modern civil organisation to be built on, and they have never had any other. What I say is, that everywhere around us in the world, wherever there is life and progress, we find a civil organisation that is modern; and this is in States which have not, like France, gone through a tremendous revolution, as well as in France itself.

Who will deny that England has life and progress? but who will deny also that her course begins to show signs of uncertainty and embarrassment? This is because even an energy like hers cannot exempt her from the obligation of obeying natural laws; and yet she tries to exempt herself from it when she endeavours to meet the requirements of a modern time and of modern society with a civil organisation which is, from the top of it to the bottom, not modern. Transform it she must, unless she means to come at last to the same sentence as the Church of Sardis: 'Thou hast a name that thou livest, and art dead.' However, on no part of this immense task of transformation have I now to touch, except on that part which relates to education. But this part, indeed, is the most important of all; and it is the part whose happy accomplishment may render that of all the rest, instead of being troubled and difficult, gradual and easy.

About popular education I have here but a very few words to say. People are at last

beginning to see in what condition this really is amongst us. Obligatory instruction is talked of. But what is the capital difficulty in the way of obligatory instruction, or indeed any national system of instruction, in this country? It is this: that the moment the working class of this country have this question of instruction really brought home to them, their self-respect will make them demand, like the working classes on the Continent, *public* schools, and not schools which the clergyman, or the squire, or the mill-owner, calls 'my school.' And what is the capital difficulty in the way of giving them public schools? It is this: that the public school for the people must rest upon the municipal organisation of the country. In France, Germany, Italy, Switzerland, the public elementary school has, and exists by having, the commune, and the municipal government of the commune, as its foundations, and it could not exist without them. But we in England have our municipal organisation still to get; the country districts, with us, have at present only

the feudal and ecclesiastical organisation of the Middle Ages, or of France before the Revolution. This is what the people who talk so glibly about obligatory instruction, and the Conscience Clause, and our present abundant supply of schools, never think of. The real preliminary to an effective system of popular education is, in fact, to provide the country with an effective municipal organisation; and here, then, is at the outset an illustration of what I said, that modern societies need a civil organisation which is modern.*

* France had, in 1865, 37,500 communes, and nearly 37,500,000 inhabitants; about one commune, therefore, to every 1,000 inhabitants. The mayor of the commune is named by the Crown, and represents the State, the central power; the municipal council, of which the mayor is president, is elected by universal suffrage of the commune.

We have in England 655 unions and about 12,000 parishes; but our communes, or municipal centres, ought at the French rate to be 20,000 in number. Nor is this number, perhaps, more than is required in order to supply a proper basis for the national organisation of our elementary schools. A municipal organisation being once given, the object should be to withdraw the existing elementary schools from their present private management, and to reconstitute them on a municipal basis. This is not the place to enter into details as to the manner in which such a withdrawal is to be

We have nearly all of us reached the notion that popular education it is the State's duty to deal with. Secondary and superior instruction many of us still think should be left to take care of themselves. Well, this is what was generally thought, or at any rate practised, in old times, all over Europe. I have shown how the State's taking secondary instruction seriously in hand dates, in Prussia, from Wilhelm von Humboldt in 1809; in the same year, a year for Prussia of trouble and anxious looking forward, he created the University of Berlin. In Switzerland the State's effective dealing with all kinds of public instruction dates from within the last thirty years; in Italy it dates from 1859. In all these countries the idea of a sound civil organisation of modern society has been found to involve the idea of an organisation of secondary and superior instruction by public authority, by the State.

effected; I will remark only that all reforms which stop short of such a withdrawal and reconstitution are and must be mere patchwork.

The English reader will ask: What inconvenience has arisen in England from pursuing the old practice? The investigations of the Schools Enquiry Commission, I feel sure, will have made it clear that we have not a body of 65,000 boys of the middle and upper classes receiving so good an instruction as 65,000 boys of the same classes are receiving in the higher schools of Prussia, or even of France. The English reader will not refuse to believe, though no Royal Commission has yet made enquiries on this point, that we have not a body of 6,300 university students in England receiving so good an instruction as the 6,300 matriculated students in the Prussian universities, or even as the far more numerous students in the French faculties, are receiving. Neither is the secondary and superior instruction given in England on the whole so good, nor is it given, on the whole, in schools of so good a standing. Of course, what good instruction there is, and what schools of good standing there are to get it in, fall chiefly to the lot of the upper class. It is

on the middle class that the inconvenience, such as it is, of getting indifferent instruction, or getting it in schools of indifferent standing, mainly comes. This inconvenience, as it strikes one after seeing attentively the schools of the Continent, has two aspects. It has a social aspect, and it has an intellectual aspect.

The social inconvenience is this. On the Continent, the upper and middle class are brought up on one and the same plane. In England the middle class, as a rule, *is brought up on the second plane.* One hears many discussions as to the limits between the middle and the upper class in England. From an educational point of view these limits are perfectly clear. Half-a-dozen famous schools, Oxford or Cambridge, the army or navy, and those posts in the public service supposed to be posts for gentlemen,—these are the schools all or any one of which give a training, a stamp, a cast of ideas, which make a sort of association of all those who share them, and this association is the upper class. Except by one of these modes of

access an Englishman does not, unless by some special play of aptitude or of circumstances, become a vital part of this association, for he does not bring with him the cast of ideas in which its bond of union lies. This cast of ideas is naturally for the most part that of the most powerful and prominent part of the association, the aristocracy. The professions furnish the more numerous but the less prominent part; in no country, accordingly, do the professions so naturally and generally share the cast of ideas of the aristocracy as in England. This cast of ideas, judged from its good side, is characterised by a high spirit, by dignity, by a just sense of the greatness of great affairs,—all of them governing qualities; and the professions have accordingly long recruited the governing force of the aristocracy, and assisted it to rule. Judged from its bad side, this cast of ideas is characterised by its indisposition and incapacity for science, for systematic knowledge. The professions are on the Continent the stronghold of science and systematic knowledge; in England,

from the reason above assigned, they are not. They are also in England separate, to a degree unknown on the Continent, from the commercial and industrial class with which in social standing they are naturally on a level. So we have amongst us the spectacle of a middle class cut in two in a way unexampled anywhere else; of a professional class brought up on the first plane, with fine and governing qualities, but without the idea of science; while that immense business-class, which is becoming so important a power in all countries, on which the future so much depends, and which in the leading schools of other countries fills so large a place, is in England brought up on the second plane, cut off from the aristocracy and the professions, and without governing qualities.

If only, in compensation, it had science, systematic knowledge! The stronghold of science should naturally be in a nation's middle class, who have neither luxury nor bodily toil to bar them from it. But here comes in the intellectual inconvenience of

the bad condition of the mass of our secondary schools. On the Continent, if the professions were as aristocratic in their indifference to science as they are here, the business class, educated as it is, would at once wrest the lead from them, and would be fit to do so. But here in England, the business class is not only inferior to the professions in the social stamp of its places of training, it is actually inferior to them, maimed and incomplete as their intellectual development is, in its intellectual development. Short as the offspring of our public schools and universities come of the idea of science and systematic knowledge, the offspring of our middle class academies probably come, if that be possible, even shorter. What these academies fail to give in social and governing qualities, they do not make up for in intellectual power.

If this is true, then that our middle class does not yet itself see the defects of its own education, perceives no practical inconvenience to itself from them, and is satisfied with things

as they are, is no reason for regarding this state of things without disquietude. 'He that wandereth out of the way of understanding shall remain in the congregation of the dead;' sooner or later, in spite of his self-confidence, in spite of his energy, in spite of his capital, he must so remain, by virtue of nature's laws. But if the English business class can listen to testimonies that in the judgment of others, at any rate, its inferior education is beginning to threaten it with practical inconvenience, such testimonies are formidably plentiful. A diplomatist of great experience, not an Englishman but much attached to England, who in the course of the acquisition and the construction of the Italian lines of railroad, had been brought much in contact with young men of business of all nations, told me that the young Englishman of this class was manifestly inferior, both in manners and instruction, to the corresponding young men of other countries. That is, he had been brought up, as I say, on a lower

plane. And the Swiss and Germans aver, if you question them as to the benefit they have got from their *Realschulen* and Polytechnicums, that in every part of the world their men of business trained in those schools are beating the English when they meet on equal terms as to capital; and that when English capital, as so often happens, is superior, the advantage of the Swiss or the German in instruction tends more and more to balance this superiority. M. Duruy, till lately the French Minister of Public Instruction, confirms this averment, not as against England in especial, but generally, by saying that all over the Continent the young North German, or the young Swiss of Zurich or Basle, is seizing, by reason of his better instruction, a confidence and a command in business which the young men of no other nation can dispute with him. This confidence, whether as yet completely justified or not by success, is a force which will go far to ensure its own triumph.

But the idea of science and systematic

knowledge is wanting to our whole instruction alike, and not only to that of our business class. While this idea is getting more and more power upon the Continent, and while its application there is leading to more and considerable results, we in England, having done marvels by the rule of thumb, are still inclined to disbelieve in the paramount importance, in whatever department, of any other. And yet in Germany every one will tell you that the explanation of the late astonishing achievements of Prussia is simply that every one concerned in them had thoroughly learnt his business on the best plan by which it was possible to teach it to him. In nothing do England and the Continent at the present moment more strikingly differ than in the prominence which is now given to the idea of science there, and the neglect in which this idea still lies here; a neglect so great that we hardly even know the use of the word science in its strict sense, and only employ it in a secondary and incorrect

sense. The English notion,—for which there is much to be said if it were not pushed to such an excess,—is, that you come to do a thing right by doing it, and not by first learning how to do it right and then doing it. The French, who in the extent and solidity of their instruction are, as a nation, so much behind the Germans, are yet in their idea of science quite in a line with the Germans, and ahead of us. That is because there is in France a considerable highly instructed class into whose whole training this idea of science has come, and whose whole influence goes to procure its application. We have no considerable class of this kind. We have, probably, a larger reading class than the French, but reading for amusement, not study; occupied with books of popular reading that leave the mind as inaccurate, as shallow, and as unscientific as it was before. The French have a much more considerable class than we have which really studies. A good test of this is the description of foreign books which get translated. Now the English reader will, per-

haps, be surprised to hear that a German scientific book of any sort,—on philosophy, history, art, religion, etc.,—is much more sure of being translated into French than it is into English. A popular story or a popular religious book is sure enough of being translated into English; there is a public for a translation of that; but in France there is a public, not large certainly, but large enough to take an edition or two, for a translation of works not of this popular character.* In Germany, of course, there is a yet far larger public of such a kind. The very matter of public instruction suggests an illustration on this point, and an illustration at my own expense. It has been quite the order of the day here, for some years past, to discuss the subject of popular education. This is a subject which can no more be known without being treated comparatively, than anatomy can

* There is nothing like an illustration, so let me name these three standard works, Creuzer's "Symbolik," Preller's "Römische Mythologie," and Von Hammer's "Geschichte des Osmanischen Reichs," of each of which there is a translation in French, and none in English.

be known without being treated comparatively. When it was under discussion in foreign countries, these countries procured accounts of what was done for popular education elsewhere, which were published, found a public to study them for their bearing on the general question, and went through two or three editions. But I doubt whether two hundred people in this country have read Mr. Pattison's report, or mine, on the popular schools of the Continent; simply because the notion of treating a matter of this kind as a matter of scientific study hardly occurs to any one in this country; but almost every one treats it as a matter which he can settle by the light of his own personal experience, and of what he calls his practical good sense.

Our rule of thumb has cost us dear already, and is probably destined to cost us dearer still. It is only by putting an unfair and extravagant strain on the wealth and energy of the country, that we have managed to hide from ourselves the inconvenience we suffer, even in the lines

where we think ourselves most successful, from our want of systematic instruction and science. I was lately saying to one of the first mathematicians in England, who has been a distinguished senior wrangler at Cambridge and a practical mechanician besides, that in one department at any rate,—that of mechanics and engineering,—we seemed, in spite of the absence of special schools, good instruction, and the idea of science, to get on wonderfully well. 'On the contrary,' said he, 'we get on wonderfully ill. Our engineers have no real scientific instruction, and we let them learn their business at our expense by the rule of thumb; but it is a ruinous system of blunder and plunder. A man without the requisite scientific knowledge undertakes to build a difficult bridge; he builds three which tumble down, and so learns how to build a fourth which stands; but somebody pays for the three failures. In France or Switzerland he would not have been suffered to build his first bridge until he had satisfied competent persons that he knew how to build it,

because abroad they cannot afford our extravagance. The scientific training of the foreign engineers is therefore perfectly right. Take the present cost per mile of the construction of an English railway, and the cost per mile as it was twenty years ago; and the comparison will give you a correct notion of what rule-of-thumb engineering, without special schools and without scientific instruction, has cost the country.'

Our dislike of authority and our disbelief in science have combined to make us leave our school system, like so many other branches of our civil organisation, to take care of itself as it best could. Under such auspices, our school system has very naturally fallen all into confusion; and though properly an intellectual agency, it has done and does nothing to counteract the indisposition to science which is our great intellectual fault. The result is, that we have to meet the calls of a modern epoch, in which the action of the working and middle class assumes a preponderating importance, and science tells in human affairs more and more,

with a working class not educated at all, a middle class educated on the second plane, and the idea of science absent from the whole course and design of our education.

On popular education I have already touched so far as is proper for my present purpose. Secondary, and superior instruction remain. It is through secondary instruction that the social inconvenience I spoke of is to be remedied. The intellectual inconvenience is to be remedied through superior instruction, at first acting by itself, and then, through the teachers whom it forms and its general influence on society, acting on the secondary schools. I will sketch, guided by the comparative study of education which I have been enabled to make, the organisation of schools which seems to me required for this purpose. My part is simply to say what organisation seems to me to be required; it is for others to judge what organisation seems to them possible, or advisable to be attempted. The times, however, are moving; and what is not advisable to-day, may perhaps be called for to-morrow.

But the English reader will hardly, I think, have accompanied me thus far, without sharing the conclusion that at any rate a public system of schools is indispensable in modern communities. From the moment you seriously desire to have your schools efficient, the question between public and private schools is settled. Of public schools you can take guarantees, of private schools you cannot. Guarantees cannot be absolutely certain. It is possible for a private school, which has given no guarantees, to be good; it is possible for a public school, which has given guarantees, to be bad. But even in England the disbelief in human reason is hardly strong enough to make us seriously contend that a rational being cannot frame for a known purpose guarantees which give him, at any rate, more numerous chances of reaching that purpose than he would have without them.

If public schools are a necessity, then an Education Minister is a necessity. Merely for administrative convenience he is, indeed, indis-

pensable. But what is yet more important than administrative convenience is to have what an Education Minister alone supplies, *a centre in which to fix responsibility*.*

The country at large is not yet educated enough, political considerations too much overbear all others, for a minister with a board of six or seven councillors, like the minister at Berlin, to be left alone to perform such a task as the reconstruction of public education in this country must at first be. A High Council of Education, such as exists in France and Italy, comprising without regard to politics the personages most proper to be heard on questions of public education, a consultative body only, but whose opinion the minister should be obliged to take on all important measures not purely administrative, would be an invaluable aid to an English Education Minister, an invaluable institution in our too political country.

* I need hardly point out that at present, with our Lord President, Vice-President, and Committee of Council on Education, we entirely fail to get, for primary instruction, this distinct centre of responsibility.

One or two matters which I have already approached or touched in the course of this volume are matters on which it would be the natural function of such a Council to advise. It would be its function to advise on the propriety of subjecting children under a certain age to competitive examination, in order to determine their admission to public foundations. It would be its function to advise on the employment of the examination test for the public service; whether this security should, as at present, be relied on exclusively, or whether it should not be preceded by securities for the applicant having previously passed a certain time under training and teachers of a certain character, and stood certain examinations in connection with that training. It would be its function to advise on the organisation of school and university examinations, and their adjustment to one another. It would be its function to advise on the graduation of schools in proper stages, from the elementary to the highest school; it would be its function to advise on school books, and,

above all, on studies, and on the plan of work for schools; a business which, as I have said, is more and more inviting discussion and ripening for settlement. We have excellent materials in England for such a Council. Properly composed, and properly representing the grave interests concerned in the questions it has to treat, it would not only have great weight with the minister, but great weight, as an illustrious, unpaid, deliberative, and non-ministerial body, with the country, and would greatly strengthen the minister's hand for important reforms.

Provincial School Boards, too, we have in this country very good materials for forming, and this institution of Germany is well suited to our habits, supplies a basis for local action, and preserves one from the inconveniences of an over-centralised system like that of France. Eight or ten Provincial School Boards should be formed, not too large, five or six members being the outside number for each Board, and one member being paid. This board would be administrative; it would represent the State in

the country, keeping the Education Minister informed of local requirements and of the state of schools in each district; being the direct public organ of communication with the schools, superintending the execution of all public regulations applied to them, visiting them so far as may be necessary, and representing the State by the presence of one of its members at their main annual examinations. An elaborate system of inspection, modelled on that of primary schools, is out of place when applied to higher schools; the French school-authorities complained to me that they were over-inspected, and no doubt there are evident and solid objections to putting a *lycée* on the same footing, as regards inspection, with an elementary school. The Prussian system is far better, which resolves inspection, for higher schools, mainly into a concert of the State with the school authorities in great examinations,—as effective a way of inspection, in real truth, as can be found. What special visits may happen to be required are best made, as in Prussia, by mem-

bers of the Provincial Boards, or by councillors of the Central Department; and a staff of school inspectors for higher schools is neither requisite nor desirable.

Where are the English higher schools, it will be asked, with which this Minister, this Council, and these School Boards are to deal? Guided by the experience of every country I have visited, I will venture to lay down certain propositions which may help to supply an answer to this question. Wherever there is a school-endowment, there is a right of public supervision, and, if necessary, of a resettlement of the endowment by public authority. Wherever, again, there is a school endowment from the Crown or the State, there is a right, to the State, of participation in the management of the endowment, and of representation on the body which manages it. These two propositions, which in ten years' time will even in England be admitted on all hands to be indisputable, supply all that is necessary for a public system of education. School endowments will

certainly be dealt with ere long, and the extraordinary immunity which from the peculiar habits and isolation of this country the corporations or private trustees administering them have hitherto enjoyed, is really a reason for applying the principles of common sense and public policy, when they are at last applied to these matters, the more stringently instead of the less stringently. Endowments enough have merited an absolute withdrawal from their present bad application, and an absolute appropriation by public authority for the purposes of a better application, to furnish the State with means for creating, as a commencement, a certain number of Royal or Public schools, to be under the direct control of the Education Department and the Provincial Boards; and in which all the regulations for management, fees, books, studies, methods, and examinations, devised by public authority as most expedient, should have force unreservedly. Other schools would be found offering to place themselves under public administration, as soon as this

administration began to inspire respect and confidence; and organised rightly, it would immediately inspire respect and confidence. A body of truly public schools would thus be formed, offering to the middle classes places of instruction with sound securities and with an honourable standing. Nor would these new schools long be in antagonism with our present chief schools, and following a different line of movement from them. Some of our present chief schools, like Eton and Westminster and Christ's Hospital, are royal foundations. Here the right of the State to have a share in the whole administration of the institution, and a voice in the nomination of the masters, immediately arises. Others, like Winchester, Rugby, and Harrow, are not royal foundations, but all of them are foundation schools, and therefore to all of them, as such, a right of public supervision applies. The best form this supervision can possibly take is that of a participation, as in Germany, by the public authority represented through

the Provincial School Boards or through members of the High Council of Education, in their main examinations. On these examinations matriculation at the university,* and access to all the higher lines of public employment should be made to depend. The pupils of private schools should be admitted to undergo them. In this way every endowed school in the kingdom would have yearly an all-important examination following a line traced or sanctioned by the most competent authority, the Superior Council of Education; and with a direct or indirect representation of this authority taking part in it. The organisation of studies in our very best schools could not fail to gain by this; in all but the very best, it would be its regeneration. Even in England, where the general opinion would be opposed to requiring, as in Germany, for the appointment of all public schoolmasters the sanction of a

*But there should be a different matriculation examination for each faculty, and, except for the faculties of theology and arts, Greek should not be required.

public authority, there could be no respectable objections urged to such a mode of public intervention as this; the one bulwark, to repeat Wilhelm von Humboldt's words, which we can set up against the misuse of their patronage by private trustees. And we should at the same time get the happiest check put to the cram and bad teaching of private schools, by compelling them either to adjust their studies to sound and serious examinations, or to cease to impose upon the credulity of ignorant parents.

The mention of the matriculation examination brings me to superior or university instruction. This is, in the opinion of the best judges, the weakest part of our whole educational system, and we must not hope to improve effectually the secondary school without doing something for the schools above it, with which it has an intimate natural connection. The want of the idea of science, of systematic knowledge, is, as I have said again and again, the capital want, at this moment, of English education and of English life; it is the university, or the supe-

rior school, which ought to foster this idea. The university or the superior school ought to provide facilities, after the general education is finished, for the young man to go on in the line where his special aptitudes lead him, be it that of languages and literature, of mathematics, of the natural sciences, of the application of these sciences, or any other line, and follow the studies of this line systematically under first-rate teaching. Our great universities, Oxford and Cambridge, do next to nothing towards this end. They are, as Signor Matteucci called them, *hauts lycées*; and though invaluable in their way as places where the youth of the upper class prolong to a very great age, and under some very admirable influences, their school education, and though in this respect to be envied by the youth of the upper class abroad and if possible instituted for their benefit, yet, with their college and tutor system, nay, with their examination and degree system, they are still, in fact, *schools*, and do not carry education beyond the stage of general and

school education. The examination for the degree of bachelor of arts, which we place at the end of our three years' university course, is merely the *Abiturientenexamen* of Germany, the *épreuve du baccalauréat* of France, placed in both of these countries at the entrance to university studies instead of, as with us, at their close. Scientific instruction, university instruction, really begins when the degree of bachelor (*bas chevalier*, knight of low degree) is taken, and the preparation for mastership in any line of study, or for doctorship (fitness to teach it), commences. But for mastership or doctorship, Oxford and Cambridge have, as is well known, either no examination at all, or an examination which is a mere form; they have consequently no instruction directed to these grades; no real university-instruction, therefore, at all. A machinery for such instruction they have, indeed, in their possession; but it is notorious that they do not practically use it.

The University of London labours under a yet graver defect as an organ of scientific or

superior instruction. It is a mere *collegium*, or board, of examiners. It gives no instruction at all, but it examines in the different lines of study, and gives degrees in them. It has real university-examinations, which Oxford and Cambridge have not; and these examinations are conducted by an independent board, and not by college tutors. This is excellent; but nevertheless it falls immensely short of what is needed. The idea of a university is, as I have already said, that of an institution not only offering to young men facilities for graduating in that line of study to which their aptitudes direct them, but offering to them, also, *facilities for following that line of study systematically, under first-rate instruction.* This second function is of incalculable importance; of far greater importance, even, than the first. It is impossible to overvalue the importance to a young man of being brought in contact with a first-rate teacher of his matter of study, and of getting from him a clear notion of what the systematic study of it means. Such instruc-

tion is so far from being yet organised in this country, that it even requires a gifted student to feel the want of it; and such a student must go to Paris, or Heidelberg, or Berlin, because England cannot give him what he wants. Some do go; an admirable English mathematician who did not, told me that he should never recover the loss of the two years which after his degree he wasted without fit instruction at an English university, when he ought to have been under superior instruction, for which the present university course in England makes no provision. I dare say he *will* recover it, for a man of genius counts no worthy effort too hard; but who can estimate the loss to the mental training and intellectual habits of the country, from an absence,—so complete that it needs genius to be sensible of it, and costs genius an effort to repair it,—of all regular public provision for the scientific study and teaching of any branch of knowledge?

England had, in 1865, twenty millions of

inhabitants, and the matriculated students in England numbered then about 3,500. Prussia, —the Prussia of this volume,—has 18,500,000 inhabitants, and 6,362 matriculated students. France has at least as large a proportion of her population coming under superior instruction. England, with her wealth and importance, has barely one-half the proportion of her population coming, even nominally, under superior instruction, that Prussia and France have. But this comparison by no means gives the full measure of her disadvantage, because, as I have just shown, Oxford and Cambridge being in reality but *hauts lycées*, and London University being only a board of examiners, the vast majority of even the 3,500 students of superior instruction whom England nominally possesses, do not, in fact, come under superior instruction at all. This entire absence of the crowning of the edifice not only tends to give us, as I have said, a want of scientific intellect in all departments, but it tends to weaken and obliterate, in the whole nation, the sense of

the value and importance of human knowledge; to vulgarise us, to exaggerate our estimate, naturally excessive, of the importance of material advantages, and to make our teachers, all but the very best of them, pursue their calling in a mere trade spirit, and with an eye to little except these advantages.

Exactly the same effect which in the field of university teaching our want of any real course of superior instruction produces, is produced, in the field of the applied sciences, by our want of special schools like the School of Arts and Trades in Paris, or the *Gewerbe-Institut* of Berlin, or the Zurich Polytechnicum. It is the same crowning of the edifice of instruction which is wanting in both cases; the same bad intellectual habits and defective intellectual action, which are in both cases fostered by this want. Our Science and Art Department at South Kensington is a recent experiment in this country, and has been a mark for much obloquy here. I am totally unconnected with that department; I am barely acquainted with

Mr. Cole who directs it, and I have not the special knowledge requisite for criticising its operations. But I am bound to say that everywhere on the Continent I found a strong interest directed to this department, a strong sense of its importance and of the excellent effect it had already produced on our industry, with a conviction that in the mere interests of this industry we should be obliged to go on and give to this idea of a special school greater development. I, too, believe that we must have a system of special schools; but this is a subject which well deserves a separate study, and some one to treat it who is better qualified for the business than I am. I touch on it here merely as a branch of the great subject of superior instruction,—the instruction which is properly, and in all but special cases, to be given by universities.

To extend this amongst us is the great matter. Considering the wealth and occupations of the middle and upper classes of this country, we ought to have at least 8,000 students coming under this instruction. The Education Depart-

ment, by the leaving examination which I have mentioned,—an examination to be held at the different schools and to represent the present matriculation examination,—should take the admission of university students entirely out of the hands of the colleges, and thus save Oxford and Cambridge from the absolute *non-valeurs* (to use M. Duruy's term) of which at present, owing to the laches of many of the colleges, they have far too many. The degree examination should be taken out of the hands of the college tutors, and entrusted, for reasons which I will give presently, to a board of examiners named by public authority. Beyond these changes, it is not in Oxford and Cambridge that the great work to be done is to be accomplished. All around me I hear people talking of university reform, university extension; all these projects end in Oxford or Cambridge, and the most liberal of them with a year's residence there. If there is one thing which my foreign experience has left me convinced of,—as convinced of as I am of our actual want of superior instruction,—

it is this: that we must take this instruction to the students, and not hope to bring the students to the instruction. We must get out of our heads all notion of making the mass of students come and reside three years, or two years, or one year, or even one month, at Oxford or Cambridge, which neither suit their circumstances nor offer them the instruction they want. We must plant faculties in the eight or ten principal seats of population, and let the students follow lectures there from their own homes, or with whatever arrangements for their living they and their parents choose. It would be everything for the great seats of population to be thus made intellectual centres as well as mere places of business; for the want of this, at present, Liverpool and Leeds are mere overgrown provincial towns, while Strasburg and Lyons are European cities. Oxford and Cambridge would contribute in the noblest and most useful way to the spread of university instruction, if they placed a number of their professors,—of whom they themselves make little use owing to the

college system,—in these new faculties, to be established in London or the provinces, where they might render incalculable service, and, still retaining the title of Oxford or Cambridge professors, unite things new and old, and help in the happiest manner to inaugurate a truly national system of superior instruction. Oxford and Cambridge can from the nature of things be nowadays important schools only in theology, arts, and the mathematical and natural sciences. Owing to their college system, which for certain purposes, as I have said, and for a certain class, works well, they do not really need half their professors in even these three faculties, and could spare half of them for use elsewhere. They are actually bad places for schools in law and medicine, and all their professors in these faculties they might with advantage employ where there would be a better field for their services. All future application of Oxford and Cambridge emoluments to national purposes might, with advantage to the country, and honour to Oxford and Cam-

bridge themselves, be made in this direction of endowing chairs for professors and exhibitions for students in university faculties to be organised in the great towns of England. The University of London should be re-cast and should have faculties formed in connection with it, in order to give some public voice and place to superior instruction in the richest capital of the world; and for this purpose the strangely devised and anomalous organisations of King's College and University College should be turned to account, and *co-ordered*, as the French say, with the University of London. Contributions from Oxford and Cambridge, and new appointments, might supply what was wanting to fill the faculties, which in London, the capital of the country, should, as at Paris or Berlin, be very strong. London would then really have, what it has not at present, a university.

It is with our superior instruction as with so much else; we have plenty of scattered materials, but these materials need to be co-ordered, and made, instead of being useless or

getting in one another's way as at present, to work harmoniously to one great design. This design should be, to form centres of superior instruction in at least ten different parts of England, with first-rate professors to give this instruction. These professors should of course be grouped in faculties, each faculty having its dean. So entirely have Oxford and Cambridge become mere *hauts lycées*, so entirely has the very idea of a real university been lost by them, that the professors there are not even organised in faculties; and their action is on this account alone, if it were not on other accounts also, perfectly feeble and incoherent. The action of professors grouped in faculties, and concerting, as the professors and *Privatdocenten* of a faculty concert in Germany, their instruction together, is quite another thing. In a place like London all the five faculties of arts, mathematical and natural sciences, theology, law, and medicine, should of course be represented; but it is by no means necessary that each centre of superior instruction should

have all these five faculties. Durham, for instance, ought probably to have, as I think a Royal Commission once proposed, but two faculties,—a faculty of theology, and a faculty of mathematical and natural sciences. The requirements of different localities, and the facilities they offer for certain lines, must be taken into account. It is evident, for example, that faculties of medicine are best placed in very large towns, where hospitals and hospital patients are numerous.

Neither is it by any means necessary, or even expedient, that each centre of faculties should have the power of conferring degrees. To maintain a uniform standard of examination and a uniform value for degrees is most important, and this is impossible when there are too many bodies examining for degrees and giving them. Germany suffers from having too many universities granting degrees, and from these degrees bearing a very unequal value. We have two old and important universities, Oxford and Cambridge; one new and important

university, London, and we want no more degree-granting bodies than these. The different centres of faculties throughout the country should be in connection with one or other of the universities, according as they may have received professors from them, or may be nearest to one or the other of them; and each of these three universities should have its board of examiners, composed of professors holding chairs in its district, and with the Superior Council of Education represented on each board. Thus composing your examining board substantially of professors, you would avoid the objection urged against the present examinations of the London University, that they are *in the air*, and that their standard fluctuates: composing it from among the professors of a third part of England, you would avoid the inconveniences of letting the teachers of any set of students have the sole decision of the degrees to be granted to them. All the lesser examinations, such as should at the end of each year be held in order to determine whether the student

makes progress and is to be allowed to go on with his course, belong naturally, in each centre, to the professors in that centre.

Such a system as that of which I have thus given the bare outline, can be properly organised only by an Education Minister, with the concert and advice of a Superior Council of Public Instruction, and, if necessary, with the help of a public grant. The intervention of the State becomes especially necessary in superior instruction, because here the body of public opinion educated enough to discern what is wanted gets smaller than ever, while the importance of organising your instruction well and committing it to first-rate men becomes greater than ever. It is not from any love of bureaucracy that men like Wilhelm von Humboldt, ardent friends of human dignity and liberty, have had recourse to a department of State in organising universities; it is because an Education Minister supplies you, for the discharge of certain critical functions, the agent who will perform them in the greatest blaze of

daylight and with the keenest sense of responsibility. Convocation made me formerly a professor, and I am very grateful to Convocation; but Convocation is not a fit body to have the appointment of professors. It is far too numerous, and the sense of responsibility does not tell upon it strongly enough. A board is not a fit body to have the appointment of professors; men will connive at a job as members of a board who single-handed would never have perpetrated it. Even the Crown,—that is, the Prime Minister,—is not the fit power to have the appointment of professors; for the Prime Minister is above all a political functionary, and feels political influences overwhelmingly. An Education Minister, directly representing all the interests of learning and intelligence in this great country, a full mark for their criticism and conscious of his responsibility to them, *that* is the power to whom to give the appointment of professors, not for his own sake, but for the sake of public education. Even if the apppointment of professors at Oxford and Cambridge be left as at present, the

appointment of every professor in the new faculties should be vested in the Education Minister, and he should be responsible for it; though the faculties should have the right, as they have abroad, of themselves proposing to him candidates they may think proper.

Putting Oxford and Cambridge out of the question, all other places in England, even London, would have so much to gain by a regular public organisation being given to superior instruction in them, and by their professors acquiring the status and authority of public functionaries, that I cannot doubt that bodies like the Senate of the London University, the Council of London University College, or the trustees of Owens College, at Manchester, would gladly co-operate with an Education Minister in transforming and co-ordering their institution so as to give them a national character and an increased effectiveness. Several of the personages in the Senate of the London University are personages who would naturally have a place in any Superior Council

of Public Instruction. Following the Prussian division of school interests into *externa* and *interna*, trustees might remain charged with *externa*, the management of property; while *interna*, the appointment of professors and the organisation of faculties, devolved upon the Education department. The great towns chosen to be the seats of the new faculties would most of them gladly charge themselves with providing a fit habitation for a public establishment adding so much to their resources and importance. Many of them would furnish an annual contribution to the expenses of the faculties. I believe there would be more chance of a brisk competition among the chief towns for the honour of being made seats of university faculties, than of their undervaluing it. At any rate, no such town would be the seat of them long without learning to value them. The important thing is to establish them.

Once established, they should be employed as in a country which relying on its good intentions, its industry, and its wealth, has too long

set at nought Solomon's warning: '*They that hate instruction love death.*' The end to have in view is, that every one who presents himself to exercise any calling shall have received for a certain length of time the best instruction preliminary to that calling. This is not, it must be repeated again and again, an absolute security for his exercising the calling well, but it is the best security. It is a thousand times better security than the mere examination-test on which with such ignorant confidence we are now, in cases where we take any security at all, leaning with our whole weight. The Civil Service Examination should be used in strict subordination to this better and ampler security, and with a view of keeping it real. For some classes of post in the public service the having passed the leaving examination of a public school ought to be demanded; for others, the having gone through the appointed courses and passed the appointed examinations in certain faculties or in certain special schools; for all, one or the other. Then, and not till

then, may come in, as a confirmatory and supplementary test, a rationally regulated civil service examination. No minister of religion, to whom, as such, any public functions are assigned, no magistrate, no schoolmaster of a higher school, no lawyer, no doctor, should be allowed to exercise his function without having come for a certain time under superior instruction and passed its examinations. The Pharmaceutical Society should be co-ordered with the faculties of medicine, and no druggist should be allowed to practise without its instruction and certificates. It is with the industrial class that the great difficulty of applying superior instruction arises; this class so large, wealthy, and important, and which needs superior instruction so much just because it feels that it needs it so little. Owens College at Manchester with its 100 students, and London University with its 450 students (even if these, who have no appointed faculty instruction, are to be called university students at all), sufficiently show, what is well known, that practically the English

industrial class cannot be said to come under superior instruction at all. Their present indifference to it, however, affords no true criterion for judging of their probable willingness to accept it if it were properly organised, brought home to their doors, and made compatible with the necessary conditions of their lives.

Thus I have attempted to sketch in outline the plan of reorganisation for English instruction which is suggested almost irresistibly by a study of public instruction in other European countries, and of the actual condition and prospects of the modern world. The reorganisation proposed will to many people in England appear chimerical. Yet I have a profound conviction that if our country is destined, as I trust it is destined, still to live and prosper, the next quarter of a century will see a reconstruction of English education as entire as that which I have recommended in these remarks, however impossible such a reconstruction may to many now seem.

APPENDIX.

LIST of the COURSES of LECTURES by Professors, *Privatdocenten,* and Readers, in the University of Berlin, during the Winter *Semester* of 1865-66.

I. FACULTY OF THEOLOGY.

Full Professors.

1. Special Dogmatics (6 hours a week)
2. Theology of the New Testament, and Life of Christ (5 hours)
3. God's Kingdom till the Coming of Christ (1 h.)
4. Introduction to the books of the Old Testament (5 h.)
5. Explanation of the Psalms (5 h.)
6. Life of Christ, and Critical History of the Gospels (2 h.)

7. History of the Church of the Reformation (6 h.)
8. Exercises in Catechisation and Preaching (2 h.)
9. The same (2 h.)
10. Practical Theology (5 h.)
11. The Creeds (1 h.)
12. Symbolical Theology, and Introduction to the Criticism of the New Testament (5 h.)

Assistant Professors.

13. The book of Judges (1 h.)
14. The book of Genesis (5 h.)
15. Life and Doctrine of St. Paul (1 h.)
16. The Epistle to the Romans (5 h.)
17. The Circle of Knowledge and Methodology (2 h.)
18. Church History, part 1 (5 h.)
19. Archæology and Patristic Study (1 h.)
20. Homiletics, theoretical and practical (2 h.)
21. Biblical History (4 h.)
22. Dogmatics (1 h.)
23. The book of Isaiah (6 h.)
24. Introduction of the books of the Old Testament (5 h.)

Privatdocenten.

25. The book of Genesis (5 h.)

26. Prophetical Inspiration (2 h.)
27. The book of Isaiah (5 h,)
28. History of the Israelitish Worship (2 h.)
29. The book of Isaiah (5 h.)
30. Chaldaic and Syriac Grammar (2 h.)
31. Three of St. Paul's Epistles explained (2 h.)
32. History of the Christian Dogmas (5 h.)
33. Symbolical Theology (1 h.)
34. The Dogmatical Passages in the Old and New Testament explained (5 h.)
35. Church History, part 1 (5 h.)
36. History of Christian Dogmas (5 h.)

II. Faculty of Law.

Full Professors.

1. Psychology of Crimes (1 h.)
2. Natural Law, Philosophy of Law (4 h.)
3. Criminal Law (4 h.)
4. Criminal Procedure (2 h.)
5. Law of Nations (2 h.)
6. Private German Law, Commercial Law (5 h.)
7. Practical Exercises (1 h.)
8. The Pandects (1 h.)
9. Practical Law of the Pandects (6 h.)
10. History of English Law (1 h.)

11. Roman Law of Inheritance (2 h.)
12. Common and Prussian Civil Process (4 h.)
13. German and Prussian Public Law (4 h.)
14. Canon Law (4 h.)
15. Prussian Law (1 h.)
16. Methodology of Law (3 h.)
17. Prussian Civil Law (4 h.)
18. History of the German Empire and German Law (4 h.)
19. History of the Provincial Estates in Germany (3 h.)
20. The fourth book of Gaius explained (2 h.)
21. History of Roman Law (5 h.)
22. Institutes and Antiquities of Roman Law (5 h.)

Assistant Professors.

23. History and actual state of the German Confederation (3 h.)
24. Common Law of Prussia (4 h.)
25. French Civil Law (4 h.)
26. Catholic and Protestant Law of Marriage (1 h.)
27. Prussian Civil Law (4 h.)
28. Catholic and Protestant Canon Law (4 h.)
29. Ecclesiastical and Canon Law (4 h.)
30. Practice of Ecclesiastical and Canon Law (1 h.)

31. Capital Punishment (1 h.)
32. Common and Prussian Criminal Law (4 h.)
33. French Criminal Procedure (2 h.)
34. German Public Law, Rights of Sovereigns (2 h.)
35. Law of Nations (3 h.)
36. Practical Exercises on the Criminal Law (1 h.)

Privatdocenten.

37. Prussian Law (1 h.)
38. History of Roman Law (1 h.)
39. Institutes and Antiquities of Roman Law (4 h.)
40. Prussian Civil Law (4 h.)
41. Feudal Law (1 h.)
42. Private German Law (4 h.)
43. Commercial Law, Maritime Law, and Law of Exchange (4 h.)
44. History of Roman Law in Germany (1 h.)
45. History of the Empire, and of German Law (4 h.)
46. Prussian Law of Succession (1 h.)
47. Practical Exercises on the Jurisprudence of the Pandects (1 h.)
48. Institutes and Antiquities of Roman Law (5 h.)
49. Relations between Church and State (1 h.)
50. Ecclesiastical and Marriage Law (4 h.)

51. German Public Law, Private Rights of Sovereigns (2 h.)
52. Prussian Public Law (3 h.)
53. Practical Exercises on Public and Canon Law (1 h.)
54. Private Justice among the Romans (2 h.)
55. Roman Law of Succession (3 h.)
56. Modern Law of Exchange in Germany (1 h.)
57. Private Law and Feudal Law in Germany (4 h.)
58. Commercial and Maritime Law in Germany (4 h.)
59. The *Speculum Saxonicum* explained (2 h.)
60. History of the Empire, and of German Law (4 h.)
61. Interpretation of the Solutions in the Digests (1 h.)
62. Methodology of Law (3 h.)

III. Faculty of Medicine.

Full Professors.

1. On certain Discoveries of the Naturalists (1 h.)
2. Experimental Physiology (5 h.)
3. Practical Exercises in Experimental Physiology (1 h.)
4. Comparative Physiology with the Microscope (1 h.)
5. General History of Medicine (1 h.)

6. Pathology and Therapeutics (3 h.)
7. Clinical Medicine (6 h.)
8. Diseases of the Nervous System (5 h.)*
9. Medical Practice (6 h.)
10. History of Popular Maladies (1 h.)
11. General History of Medicine (3 h.)
12. Pathology and Therapeutics (5 h.)
13. Hernia (2 h.)
14. General and Special Surgery (4 h.)
15. Clinical Surgery and Clinical Ophthalmics, Clinical Surgery, (5 h.)*
16. Experiments in Surgery and Anatomy
17. Clinical Surgery and Clinical Ophthalmics (6 h.)*
18. Midwifery (4 h.)
19. Clinical Midwifery (6 h.)*
20. Practical Exercises in Midwifery (1 h.)
21. Excitant Drugs in Medicine (2 h.)
22. *Materia Medica* (6 h.)
23. Osteology (1 h.)
24. Anatomy of the Brain and Spinal Marrow (1 h.)
25. General Anatomy (6 h.)

* Delivered either at one of the hospitals, or at one of the medical institutions, of Berlin.

26. Structure of the Human body, with the Microscope (1 h.)
27. Practical Exercises in Anatomy (24 h.)
28. Methodology of Medicine (2 h.)
29. General Pathology and Therapeutics, and their History (4 h.)
30. *Materia Medica*, with Experiments (6 h.)
31. Pathological Anatomy (4 h.)
32. Practical Course of Anatomy and Pathology, with the Microscope (6 h.)
33. Practical Course of Pathological Osteology (6 h.)

Assistant Professors.

34. Spectacles (1 h.)
35. Ophthalmology (2 h.)
36. The same (2 h.)
37. Clinical Ophthalmics (6 h.)
38. Practical Course of Ophthalmics, with Experiments (1 h.)
39. General Surgery (6 h.)
40. Surgical Operations on Dead Bodies.
41. Diseases of Children (6 h.)
42. Errors of Modern Medicine (1 h.)
43. Hygiene (1 h.)

44. Theory and Practice of Treatment of Diseases of the Eye (4 h.)
45. Anatomy of the Organs of Sense (1 h.)
46. Osteology and Syndesmology of the Human Body (3 h.)
47. Public Hygiene (1 h.)
48. Legal Medicine (3 h.)
49. Medico-legal Dissection (6 h.)
50. The Nerves (2 h.)
51. Clinical Study of Diseases of the Nerves (6 h.)
52. Toxicology (2 h.)
53. Legal Medicine (3 h.)
54. Medico-legal Dissection (6 h.)
55. Pathology and Therapeutics (1 h.)
56. Auscultation (4 h.)
57. Clinical Lectures on Auscultation and Percussion (6 h.)*
58. Wounds (1 h.)
59. Fractures and Dislocations (2 h.)
60. Application of Bandages (3 h.)

Privatdocenten.

61. Diseases of the Teeth and Mouth (2 h.)

* Delivered either at one of the hospitals, or at one of the medical institutions, of Berlin.

62. Diseases of the Teeth and their Cure, with Experiments (6 h.)
63. Surgical and Ophthalmological Experiments
64. Drawing up of Prescriptions (2 h.)
65. Special Pathology and Therapeutics (6 h.)
66. Venereal Diseases (2 h.)
67. Cutaneous Diseases (2 h.)
68. Clinical Lectures on Diseases of Children (2 h.)
69. Diseases of the Ear (1 h.)
70. Moral Responsibility (1 h.)
71. Pathology of Venereal Diseases (1 h.)
72. Surgery (6 h.)
73. Legal Medicine (2 h.)
74. Diseases of Women (2 h.)
75. Theory and Practice of Midwifery (4 h.)
76. Baths and Thermal Waters (2 h.)
77. Drawing up of Prescriptions (3 h.)
78. Physiological Effects of Gases (3 h.)
79. Toxicology (3 h.)
80. Going over previous Lectures in Physiology and Osteology (1 h.)
81. Theory and Practice of Midwifery (4 h.)
82. Operations in Midwifery (1 h.)
83. Clinical Study of Cutaneous and Venereal Diseases (3 h.)

84. Use of the Laryngoscope (1 h.)
85. Diseases of the Heart (1 h.)
86. Percussion, Auscultation, etc. (3 h.)
87. Auscultation, Percussion, and use of the Laryngoscope (4 h.)
88. General and Special Surgery
89. Physiology of Animal Generation (1 h.)
90. Physiology of the Nerves and Muscles (4 h.)
91. Hernia (1 h.)
92. Puncture with Experiments (1 h.)
93. Hereditary Vices (1 h.)
94. General and Special Surgery (4 h.)
95. Auscultation, Percussion, etc. (1 h.)
96. Diagnostics (2 h.)
97. Use of Electricity in Medicine (1 h.)
98. Experimental Physiology (2 h.)
99. Going over previous Lectures on different points of Physiology (1 h.)
100. Ophthalmology (3 h.)
101. Use of the Ophthalmoscope (1 h)
102. Diagnostics of abnormal states of the Eye (1 h.)
103. Theory and Practice of Midwifery (4 h.)
104. Operations in Midwifery (1 h.)
105. Thermal Waters (2 h.)

106. Going over previous Lectures on Pharmacology (1 h.)
107. Position of the *Viscera* in the Human Body (1 h.)
108. The Laryngoscope (1 h.)
109. The Laryngoscope, Auscultation, Inhalations, etc. (1 h.)
110. Cure of Insanity; the Diseases of the Brain (2 h.)

IV. Faculty of Philosophy.

Full Professors.

1. Æschines *in Ctesiphontem* (2 h.)
2. Palæontology (5 h.)
3. Greek Antiquities (6 h.)
4. Botany (1 h.)
5. Special Botany (4 h.)
6. *Cryptogama, etc.* (1 h.)
7. Meteorology (1 h.)
8. Experimental Physics (4 h.)
9. Grecian History (4 h.)
10. Modern History, from 1718 to 1815 (5 h.)
11. Archæology (2 h.)
12. Greek Mythology (1 h.)
13. National Economy (4 h.)

14. Science of Finance (4 h.)
15. The *Persæ* of Æschylus (4 h.)
16. The *Miles Gloriosus* of Plautus (4 h.)
17. Politics and Political Economy (1 h.)
18. Principles of Political Economy (4 h.)
19. Logic and Metaphysics (4 h.)
20. Political Economy; Theory of Finance (4 h.)
21. Organic Chemistry (1 h.)
22. Experimental Chemistry (3 h.)
23. The Speeches of Lysias (2 h.)
24. The Homeric Poems, and particularly the *Odyssey* (4 h.)
25. Surfaces of the Fourth Order (1 h.)
26. Analytical Mechanics (4 h.)
27. History of Egypt (1 h.)
28. Grammar of Hieroglyphics (3 h.)
29. Explanation of Egyptian Monuments (1 h.)
30. Physical Experiments (1 h.)
31. The 41st book of Livy, and onwards (1 h.)
32. Latin Inscriptions (4 h.)
33. Monuments of the Ancient German Language explained (1 h.)
34. History of the Ancient Poetry of Germany (4 h.)
35. The *Germany* of Tacitus (4 h.)

36. Analysis of Determinate Numbers (3 h.)
37. General and Special Geology (6 h.)
38. Zootomy (4 h.)
39. Historical Exercises (1 h.)
40. Modern History of England and of her Parliament (4 h.)
41. History of Politics (1 h.)
42. The Syriac Language (1 h.)
43. Grammar of the Semitic Languages (1 h.)
44. Explanation of the Psalms (5 h.)
45. Principles of Arabic Grammar (3 h.)
46. Comparison of Persian with Sanscrit (1 h.)
47. Crystallography (1 h.)
48. Mineralogy (6 h.)
49. The sixth book of Aristotle's *Nicomach. Eth.* (2 h.)
50. Psychology (4 h.)
51. History of Philosophy (5 h.)
52. Theory of Analytical Functions (6 h.)
53. Algebraical Equations (6 h.)

Assistant Professors.

54. History of Modern Philosophy (2 h.)
55. Logic (4 h.)
56. General History of Philosophy in 17th century (4 h.)

57. Theory of Determinants (2 h.)
58. Algebra (4 h.)
59. Differential Calculus (4 h.)
60. Physical Geography, and History of the Mediterranean (3 h.)
61. Simple Drugs examined with the Microscope (1 h.)
62. Botany of Medical Plants (6 h.)
63. Pharmacognosy (4 h.)
64. Certain Arabic Authors explained (1 h.)
65. Arabic Grammar (3 h.)
66. The book of Genesis (5 h.)
67. Theory of Geographical Phenomena (3 h.)
68. Analytical Mechanics (1 h.)
69. History of Astronomy (2 h.)
70. Theory of the motion of Planets and Comets (4 h.)
71. Exercises in Archæology (1 h.)
72. History of Greek Sculpture (3 h.)
73. National Economy (4 h.)
74. The *Epidicus* of Plautus (2 h.)
75. Roman Antiquities (4 h.)
76. History of Greek Philosophy (2 h.)
77. Æsthetics (2 h.)

78. Select Epistles of Cicero (1 h.)
79. Philological Exercises (1 h.)
80. Greek Mythology (3 h.)
81. Exercises in Palæography (1 h.)
82. Latin Palæography (1 h.)
83. National History of Glumaceous Plants (1 h.)
84. Systems of Medical Plants (6 h.)
85. Exercises in Anatomy and Physiology (4 h.)
86. Ancient Geography (3 h.)
87. Botany, Diseases of Plants (4 h.)
88. Agronomical Science (1 h.)
89. Historical Exercises (1 h.)
90. History of Germany (4 h.)
91. Art of Singing, especially Church Singing (2 h.)
92. Musical Composition (4 h.)
93. Pædagogy (2 h.)
94. The *Nibelungen* (6 h.)
95. Exercises in deciphering Manuscripts (1 h.)
96. Logic; Encyclopædia of Philosophical Sciences (4 h.)
97. History of Philosophy (4 h.)
98. History of the New World (2 h.)
99. Geography and Ethnography of Europe (4 h.)
100. The Chaldee Language (1 h.)

101. History of the Armenians (3 h.)
102. General History of Physics since Galileo (2 h.)
103. Theory of Electricity (1 h.)
104. Physics applied to Mathematics, Acoustics (4 h.)
105. Chemical Metallurgy (3 h.)
106. Principles of Qualitative and Quantitative Analysis (1 h.)
107. Experimental Chemistry (6 h.)
108. Pharmacy (3 h.)
109. Chemical Experiments (8 h. *daily*)
110. The Turkish Language (3 h.)
111. Principles of National Psychology (1 h.)
112. Philosophy of Language; General Grammar (4 h.)
113. Character of the Indo-Germanic Languages (4 h.)
114. Universal History of the Arts (5 h.)
115. The *Sacontala* of Calidâsa (2 h.)
116. Sanscrit Grammar (3 h.)
117. Zend or Pâli Grammar (2 h.)
118. The Rigveda or the Atharvaveda explained (1 h.)
119. Course of Sanscrit, Zend, or Pâli (1 h.)
120. The Dramatic Art (1 h.)
121. Psychology and Anthropology (3 h.)

Privatdocenten.

122. Experimental Organic Chemistry (4 h.)

123. Experiments in Organic Chemistry (6 h.)
124. Schleiermacher (1 h.)
125. Logic, and Encyclopædia of the Philosophical Sciences (4 h.)
126. The Limits between Poetry and Philosophy (1 h.)
127. The American Political Economist, Henry Carey
128. Logic and Metaphysics
129. Political Economy
130. History of Modern Civilisation
131. Agronomical Zoology (3 h.)*
132. Entomology (3 h.)
133. The Koran (2 h.)
134. The Semitic Dialects (1 h.)
135. Differential Calculus (4 h.)
136. Analytical Geometry (4 h.)
137. The Bhagvatgita (1 h.)
138. Panini's Sanscrit Grammar (3 h.)
139. Hindustani or Pâli Grammar (2 h.)
140. Indian Philosophy (1 h.)
141. The Satires of Juvenal (2 h.)
142. Syntax of the Latin Language (4 h.)
143. Lucretius, *De Rerum Natura* (1 h.)

* This course treats of the animals which do harm to agriculture.

144. Rhetoric and Rhetorical Exercises (2 h.)
145. Aristotle, and the Natural Philosophy of the Ancients (4 h.)
146. History of the German Universities (1 h.)
147. Systems of Modern Philosophy since Kant (4 h.)
148. Experimental Chemistry (6 h.)
149. The Olynthiac Orations of Demosthenes (1 h.)
150. The Epistles of Horace (4 h.)
151. Physics applied to Mathematics, Acoustics, Optics etc. (3 h.)
152. General Geology
153. Natural History of *Entozoa* (1 h.)
154. General Zoology
155. The Climate of Italy (1 h.)
156. Medical Climatology (2 h.)
157. Conversational Lecture on Chemistry (1 h.)
158. History of Chemistry (1 h.)
159. Qualitative and Quantitative part of Analytical Chemistry (3 h.)
160. Medico-Legal Chemistry (3 h.)
161. Chemical Experiments (8 h. *daily*)
162. Theory of Irrigation and Drainage (1 h.)
163. Principles of Agriculture (3 h.)
164. Management of Cattle (3 h.)

165. Book-keeping (1 h.)

Readers (for Modern Languages).

166. Lectures in Italian on Italian Literature (2 h.)
167. Italian Grammar (2 h.)
168. Lectures on the Italian and French Languages (2 h.)
169. German shorthand (2 h.)
170. German, English, French, and Italian Shorthand (2 h.)
171. Lectures in Polish on Persian Grammar and the Zend Language (2 h.)
172. The Turkish Language; *Kirk Vezir* read (3 h.)
173. Practical Lectures on the Persian and Turkish Languages (2 h.)
174. Lectures in English on English Literature down to the 16th century (1 h.)
175. Lectures on the English Language (2 h.)

LONDON: PRINTED BY
SPOTTISWOODE AND CO., NEW-STREET SQUARE
AND PARLIAMENT STREET.

A Catalogue of Educational Books, with a Short Account of their Character and Aim,

Published by

MACMILLAN AND CO.,

Bedford Street, Strand, London.

CLASSICAL.

Æschylus.—ÆSCHYLI EUMENIDES. The Greek Text, with English Notes and English Verse, Translation, and an Introduction. By BERNARD DRAKE, M.A., late Fellow of King's College, Cambridge. 8vo. 3*s.* 6*d.*

The Greek text adopted in this Edition is based upon that of Wellauer. But advantage has been taken of the suggestions of Hermann, Paley, Linwood, and other commentators. In the Translation, the simple character of the Æschylean dialogues has generally enabled the author to render them without any material deviation from the construction and idioms of the original Greek.

"*The Notes are judicious, and, a rare merit in English Notes, not too numerous or too long. A most useful feature in the work is the Analysis of Müller's celebrated dissertations.*"—BRITISH QUARTERLY REVIEW.

Aristotle. — AN INTRODUCTION TO ARISTOTLE'S RHETORIC. With Analysis, Notes, and Appendices. By E. M. COPE, Senior Fellow and Tutor of Trinity College, Cambridge. 8vo. 13*s.*

The author has aimed to illustrate the general bearings and relations of the Art of Rhetoric in itself, as well as the special mode of treating it

adopted by Aristotle in his peculiar system. The evidence upon obscure or doubtful questions connected with the subject is examined; and the relations which Rhetoric bears, in Aristotle's view, to the kindred art of Logic are considered. A connected Analysis of the treatise is given, sometimes in the form of paraphrase; and a few important matters are separately discussed in Appendices. There is added, as a general Appendix, by way of specimen of the antagonistic system of Isocrates and others, a complete analysis of the treatise called Ῥητορικὴ πρὸς Ἀλέξανδρον, *with a discussion of its authorship and of the probable results of its teaching.*

ARISTOTLE ON FALLACIES; OR, THE SOPHISTICI ELENCHI. With a Translation and Notes by EDWARD POSTE, M.A., Fellow of Oriel College, Oxford. 8vo. 8*s.* 6*d.*

Besides the doctrine of Fallacies, Aristotle offers, either in this treatise or in other passages of his works quoted in the commentary, various glances over the world of science and opinion, various suggestions or problems which are still agitated, and a vivid picture of the ancient system of dialectics. "It is not only scholarlike and careful, it is also perspicuous."—GUARDIAN. *"It is indeed a work of great skill."*—SATURDAY REVIEW.

Blackie.—GREEK AND ENGLISH DIALOGUES FOR USE IN SCHOOLS AND COLLEGES. By JOHN STUART BLACKIE, Professor of Greek in the University of Edinburgh. Fcap. 8vo. 2*s.* 6*d.*

"Why should the old practice of conversing in Latin and Greek be altogether discarded?"—PROFESSOR JOWETT.

Professor Blackie has been in the habit, as part of the regular training of his class in Edinburgh University, of accustoming the students to converse in Greek. This method he has found to be eminently successful as a means of furnishing the students with a copious vocabulary, training them to use it promptly, confidently, and with correct articulation, and instilling into them an accurate and intelligent knowledge of Greek Grammar, which he hopes may aid other teachers in realizing the same ends. The present little volume furnishes a series of twenty-five graduated dialogues in parallel columns of Greek and English on a great variety of interesting subjects. The author has had the advantage of submitting his work to the judgment of several scholars of repute, both English and Scotch. The GLOBE *says: "Professor Blackie's system is sensible; his book is likely to be useful to teachers of Greek; and his suggestions valuable to the learners of any language."*

Cicero.—THE SECOND PHILIPPIC ORATION. With an Introduction and Notes, translated from the German of KARL HALM. Edited, with Corrections and Additions, by JOHN E. B. MAYOR, M.A., Fellow and Classical Lecturer of St. John's College, Cambridge. Fourth Edition, revised. Fcap. 8vo. 5*s*.

This volume opens with a List of Books useful to the Student of Cicero, and some account of various editions, mostly German, of the works of Cicero. The Introduction is based on Halm. The English editor has further illustrated the work by additions drawn, for the most part, (1) *from the ancient authorities;* (2) *from his own private marginal references, and from collections;* (3) *from the notes of previous commentators. A copious 'argument' is also given. "On the whole we have rarely met with an edition of a classical author which so thoroughly fulfils the requirements of a good school-book."*—EDUCATIONAL TIMES. *"A valuable edition," says the* ATHENÆUM.

THE ORATIONS OF CICERO AGAINST CATILINA. With Notes and an Introduction. Translated from the German of KARL HALM, with many additions by A. S. WILKINS, M.A. Professor of Latin in Owens College, Manchester. New Edition. Fcap. 8vo. 3*s*. 6*d*.

The historical introduction of Mr. Wilkins brings together all the details which are known respecting Catiline and his relations with the great orator. A list of passages where conjectures have been admitted into the text, and also of all variations from the text of Kayser (1862), *is added at the end. Finally, the English editor has subjoined a large number of notes, both original and selected, from Curtius, Schleischer, Corssen, and other well-known critics, an analysis of the orations, and an index.*

Demosthenes.—DEMOSTHENES ON THE CROWN. The Greek Text with English Notes. By B. DRAKE, M.A., late Fellow of King's College, Cambridge. Fifth Edition, to which is prefixed ÆSCHINES AGAINST CTESIPHON, with English Notes. Fcap. 8vo. 5*s*.

An Introduction discusses the immediate causes of the two orations, and their general character. The Notes contain frequent references to the best authorities. Among the appendices at the end is a chronological table of the life and public career of Æschines and Demosthenes. "A neat and useful edition."—ATHENÆUM.

Greenwood.—THE ELEMENTS OF GREEK GRAMMAR, including Accidence, Irregular Verbs, and Principles of Derivation and Composition; adapted to the System of Crude Forms. By J. G. GREENWOOD, Principal of Owens College, Manchester. Fourth Edition. Crown 8vo. 5*s.* 6*d.*

This Grammar is intended to do for Greek what the Grammars of Key and others have done for Latin. Until this work was published, no Greek Grammar had appeared based on the system of crude forms, though the system is perhaps still better adapted to Greek than to Latin.

Hodgson.—MYTHOLOGY FOR LATIN VERSIFICATION. A brief Sketch of the Fables of the Ancients, prepared to be rendered into Latin Verse for Schools. By F. HODGSON, B.D., late Provost of Eton. New Edition, revised by F. C. HODGSON, M.A. 18mo. 3*s.*

The late Provost of Eton has here supplied a help to the composition of Latin Verse, combined with a brief introduction to Classical Mythology. In this new edition a few mistakes have been rectified; rules have been added to the Prosody; and a more uniform system has been adopted with regard to the help afforded.

Homer's Odyssey.—THE NARRATIVE OF ODYSSEUS. With a Commentary by JOHN E. B. MAYOR, M.A., Kennedy Professor of Latin at Cambridge. Part I. Book IX.—XII. Fcap. 8vo. 3*s.*

Horace.—THE WORKS OF HORACE, rendered into English Prose, with Introductions, Running Analysis, and Notes, by JAMES LONSDALE, M.A., and SAMUEL LEE, M.A. Globe 8vo. 3*s.* 6*d.*; gilt edges, 4*s.* 6*d.*

"*The main merits of this version are its persistent fidelity to the sense and spirit of the Latin, the beauty of its form of presentation, its freedom, and its force. To the schoolboy it will be available as a help, because it is, beyond all comparison, the most accurate and trustworthy of all translations.*"—ENGLISH CHURCHMAN.

Juvenal.—THIRTEEN SATIRES OF JUVENAL. With a Commentary. By JOHN E. B. MAYOR, M.A., Kennedy Professor of Latin at Cambridge. Second Edition, enlarged. Vol. I. Crown 8vo. 7*s.* 6*d.* Or Parts I. and II. Crown 8vo. 3*s.* 6*d.* each.

Besides the author's own, there are various other notes, for which the author is indebted to Professors Munro and Conington. All the citations have been taken anew from the original authors. "*A painstaking and critical edition.*"—SPECTATOR. "*For really ripe scholarship, extensive acquaintance with Latin literature, and familiar knowledge of continental criticism, ancient and modern, it is unsurpassed among English editions.*"—EDINBURGH REVIEW.

Marshall.—A TABLE OF IRREGULAR GREEK VERBS, classified according to the arrangement of Curtius' Greek Grammar. By J. M. MARSHALL, M.A., Fellow and late Lecturer of Brasenose College, Oxford; one of the Masters in Clifton College. 8vo. cloth. New Edition. 1*s.*

The system of this table has been borrowed from the excellent Greek Grammar of Dr. Curtius.

Mayor (John E. B.)—FIRST GREEK READER. Edited after KARL HALM, with Corrections and large Additions by JOHN E. B. MAYOR, M.A., Fellow and Classical Lecturer of St. John's College, Cambridge. Third Edition, revised. Fcap. 8vo. 4*s.* 6*d.*

A selection of short passages, serving to illustrate especially the Greek Accidence. A good deal of syntax is incidentally taught, and Madvig and other books are cited, for the use of masters: but no learner *is expected to know more of syntax than is contained in the Notes and Vocabulary. A preface* "*To the Reader,*" *not only explains the aim and method of the volume, but also deals with classical instruction generally. The extracts are uniformly in the Attic dialect. This book may be used in connection with Mayor's* "*Greek for Beginners.*" "*After a careful examination we are inclined to consider this volume unrivalled in the hold which its pithy sentences are likely to take on the memory, and for the amount of true scholarship embodied in the annotations.*"—EDUCATIONAL TIMES.

Mayor (Joseph B.)—GREEK FOR BEGINNERS. By the Rev. J. B. MAYOR, M.A., Professor of Classical Literature in King's College, London. Part I., with Vocabulary, 1*s.* 6*d.* Parts II. and III., with Vocabulary and Index, 3*s.* 6*d.*, complete in one vol. Fourth Edition. Fcap. 8vo. cloth, 4*s.* 6*d.*

The distinctive method of this book consists in building up a boy's knowledge of Greek upon the foundation of his knowledge of English and

Latin, instead of trusting everything to the unassisted memory. Greek words have been used in the earlier part of the book except such as have connections either in English or Latin. Each step leads naturally on to its successor; grammatical forms and rules are at once applied in a series of graduated exercises, accompanied by ample vocabularies. Thus the book serves as Grammar, Exercise book, and Vocabulary. The ordinary ten declensions are reduced to three, which correspond to the first three in Latin; and the system of stems *is adopted. A general Vocabulary, and Index of Greek words, completes the work. "We know of no book of the same scope so complete in itself, or so well calculated to make the study of Greek interesting at the very commencement."*—STANDARD.

Peile (John, M.A.)—AN INTRODUCTION TO GREEK AND LATIN ETYMOLOGY. By JOHN PEILE, M.A., Fellow and Assistant Tutor of Christ's College, Cambridge, formerly Teacher of Sanskrit in the University of Cambridge. New and Revised Edition. Crown 8vo. 10*s.* 6*d.*

These Philological Lectures are the result of Notes made during the author's reading for several years. These Notes were put into the shape of Lectures, delivered at Christ's College, as one set in the "Intercollegiate" list. They are now printed with some additions and modifications. "The book may be accepted as a very valuable contribution to the science of language."—SATURDAY REVIEW.

Plato.—THE REPUBLIC OF PLATO. Translated into English, with an Analysis and Notes, by J. LL. DAVIES, M.A., and D. J. VAUGHAN, M.A. Third Edition, with Vignette Portraits of Plato and Socrates, engraved by JEENS from an Antique Gem. 18mo. 4*s.* 6*d.*

An introductory notice supplies some account of the life of Plato, and the translation is preceded by an elaborate analysis. "The translators have," in the judgment of the SATURDAY REVIEW, *"produced a book which any reader, whether acquainted with the original or not, can peruse with pleasure as well as profit."*

Plautus (Ramsay).—THE MOSTELLARIA OF PLAUTUS. With Notes Critical and Explanatory, Prolegomena, and Excursus. By WILLIAM RAMSAY, M.A., formerly Professor of Humanity in the University of Glasgow. Edited by Professor GEORGE G. RAMSAY, M.A., of the University of Glasgow. 8vo. 14*s.*

"*The fruits of that exhaustive research and that ripe and well-digested scholarship which its author brought to bear upon everything that he undertook are visible throughout. It is furnished with a complete apparatus of prolegomena, notes, and excursus; and for the use of veteran scholars it probably leaves nothing to be desired.*"—PALL MALL GAZETTE.

Potts (Alex. W., M.A.)—HINTS TOWARDS LATIN PROSE COMPOSITION. By ALEX. W. POTTS, M.A., late Fellow of St. John's College, Cambridge; Assistant Master in Rugby School; and Head Master of the Fettes College, Edinburgh. Third Edition, enlarged. Extra fcap. 8vo. cloth. 3*s.*

An attempt is here made to give students, after they have mastered ordinary syntactical rules, some idea of the characteristics of Latin Prose and the means to be employed to reproduce them. Some notion of the treatment of the subject may be gathered from the 'Contents.' CHAP. I.—*Characteristics of Classical Latin, Hints on turning English into Latin;* CHAP. II.—*Arrangement of Words in a Sentence;* CHAP. III.—*Unity in Latin Prose, Subject and Object;* CHAP. IV.—*On the Period in Latin Prose;* CHAP. V.—*On the position of the Relative and Relative Clauses. The* GLOBE *characterises it as "an admirable little book which teachers of Latin will find of very great service."*

Roby.—A GRAMMAR OF THE LATIN LANGUAGE, from Plautus to Suetonius. By H. J. ROBY, M.A., late Fellow of St. John's College, Cambridge. Part I. containing :—Book I. Sounds. Book II. Inflexions. Book III. Word-formation. Appendices. Second Edition. Crown 8vo. 8*s.* 6*d.*

This work is the result of an independent and careful study of the writers of the strictly classical period, the period embraced between the time of Plautus and that of Suetonius. The author's aim has been to give the facts of the language in as few words as possible. This is a Grammar strictly of the Latin *language; not a Universal Grammar illustrated from Latin, nor the Latin section of a Comparative Grammar of the Indo-European languages, nor a Grammar of the group of Italian dialects, of which Latin is one. It will be found that the arrangement of the book and the treatment of the various divisions differ in many respects from those of previous grammars. Mr. Roby has given special prominence to the treatment of Sounds and Word-formation; and in the First Book he has done much towards settling a discussion which is at present largely engaging the attention of scholars, viz., the pronunciation of the classical languages.*

"The book is marked by the clear and practised insight of a master in his art. It is a book that would do honour to any country."—ATHENÆUM.

Rust.—FIRST STEPS TO LATIN PROSE COMPOSITION. By the Rev. GEORGE RUST, M.A. of Pembroke College, Oxford, Master of the Lower School, King's College, London. New Edition. 18mo. 1*s.* 6*d.*

This little work consists of carefully graduated vocabularies and exercises, so arranged as gradually to familiarise the pupil with the elements of Latin Prose Composition, and fit him to commence a more advanced work.

Sallust.—CAII SALLUSTII CRISPI CATILINA ET JUGURTHA. For Use in Schools. With copious Notes. By C. MERIVALE, B.D. (In the present Edition the Notes have been carefully revised, and a few remarks and explanations added.) New Edition. Fcap. 8vo. 4*s.* 6*d.*

This edition of Sallust, prepared by the distinguished historian of Rome, contains an Introduction, concerning the life and works of Sallust, lists of the Consuls, and elaborate Notes. "A very good edition, to which the Editor has not only brought scholarship but independent judgment and historical criticism."—SPECTATOR.

The JUGURTHA and the CATILINA may be had separately, price 2*s.* 6*d.* each.

Tacitus.—THE HISTORY OF TACITUS TRANSLATED INTO ENGLISH. By A. J. CHURCH, M.A., and W. J. BRODRIBB, M.A. With Notes and a Map. New and Cheaper Edition. Crown 8vo. 6*s.*

The translators have endeavoured to adhere as closely to the original as was thought consistent with a proper observance of English idiom. At the same time, it has been their aim to reproduce the precise expressions of the author. The campaign of Civilis is elucidated in a note of some length, which is illustrated by a map, containing the names of places and of tribes occurring in the work. There is also a complete account of the Roman army as it was constituted in the time of Tacitus. This work is characterised by the SPECTATOR *as "a scholarly and faithful translation."*

THE AGRICOLA AND GERMANIA OF TACITUS. A Revised Text, English Notes, and Maps. By A. J. CHURCH, M.A., and W. J. BRODRIBB, M.A. New Edition. Fcap. 8vo. 3*s.* 6*d.*

Tacitus—*continued.*

"*We have endeavoured, with the aid of recent editions, thoroughly to elucidate the text, explaining the various difficulties, critical and grammatical, which occur to the student. We have consulted throughout, besides the older commentators, the editions of Ritter and Orelli, but we are under special obligations to the labours of the recent German editors, Wex and Kritz.*" *Two Indexes are appended,* (1) *of Proper Names,* (2) *of Words and Phrases explained.* "*A model of careful editing,*" *says the* ATHENÆUM, "*being at once compact, complete, and correct, as well as neatly printed and elegant in style.*"

THE AGRICOLA and GERMANIA may be had separately, price 2*s.* each.

THE AGRICOLA AND GERMANIA. Translated into English by A. J. CHURCH, M.A., and W. J. BRODRIBB, M.A. With Maps and Notes. Extra fcap. 8vo. 2*s.*6*d.*

The translators have sought to produce such a version as may satisfy scholars who demand a faithful rendering of the original, and English readers who are offended by the baldness and frigidity which commonly disfigure translations. The treatises are accompanied by Introductions, Notes, Maps, and a chronological Summary. The ATHENÆUM *says of this work that it is* "*a version at once readable and exact, which may be perused with pleasure by all, and consulted with advantage by the classical student.*"

Theophrastus.—THE CHARACTERS OF THEOPHRASTUS. An English Translation from a Revised Text. With Introduction and Notes. By R. C. JEBB, M.A., Public Orator in the University of Cambridge. Extra fcap. 8vo. 6*s.* 6*d.*

The first object of this book is to make these lively pictures of old Greek manners better known to English readers. But as the Editor and Translator has been at considerable pains to procure a trustworthy text, and has recorded the results of his critical labours in an Introduction, Notes, and Appendices, it is hoped that the work will prove of value even to the scholar. "*We must not omit to give due honour to Mr. Jebb's translation, which is as good as translation can be . . . . Not less commendable are the execution of the Notes and the critical handling of the Text.*"—SPECTATOR. *The* SATURDAY REVIEW *speaks of it as* "*a very handy*

and scholarly edition of a work which till now has been beset with hindrances and difficulties, but which Mr. Jebb's critical skill and judgment have at length placed within the grasp and comprehension of ordinary readers."

Thring.—Works by the Rev. E. THRING, M.A., Head Master of Uppingham School.

A LATIN GRADUAL. A First Latin Construing Book for Beginners. New Edition, enlarged, with Coloured Sentence Maps. Fcap. 8vo. 2*s.* 6*d.*

The Head Master of Uppingham has here sought to supply by easy steps a knowledge of grammar, combined with a good Vocabulary. Passages have been selected from the best Latin authors in prose and verse. These passages are gradually built up in their grammatical structure, and finally printed in full. A short practical manual of common mood constructions, with their English equivalents, forms a second part. To the New Edition a circle of grammatical Constructions with a Glossary has been added; as also some coloured Sentence Maps, by means of which the different parts of a sentence can easily be distinguished, and the practice of dissecting phrases carried out with the greatest benefit to the student.

A MANUAL OF MOOD CONSTRUCTIONS. Fcap. 8vo. 1*s.* 6*d.*

Treats of the ordinary mood constructions, as found in the Latin, Greek, and English languages. The EDUCATIONAL TIMES *thinks it "very well suited to young students."*

A CONSTRUING BOOK. Fcap. 8vo. 2*s.* 6*d.*

Thucydides.—THE SICILIAN EXPEDITION. Being Books VI. and VII. of Thucydides, with Notes. A New Edition, revised and enlarged, with a Map. By the Rev. PERCIVAL FROST, M.A., late Fellow of St. John's College, Cambridge. Fcap. 8vo. 5*s.*

This edition is mainly a grammatical one. Attention is called to the force of compound verbs, and the exact meaning of the various tenses employed. "The notes are excellent of their kind. Mr. Frost seldom passes over a difficulty, and what he says is always to the point."—EDUCATIONAL TIMES.

Virgil.—THE WORKS OF VIRGIL RENDERED INTO ENGLISH PROSE, with Notes, Introductions, Running Analysis, and an Index, by JAMES LONSDALE, M.A. and SAMUEL LEE, M.A. Second Edition. Globe 8vo. 3*s.* 6*d.*; gilt edges, 4*s.* 6*d.*

The original has been faithfully rendered, and paraphrase altogether avoided. At the same time, the translators have endeavoured to adapt the book to the use of the English reader. Some amount of rhythm in the structure of the sentence has been generally maintained; and, when in the Latin the sound of the words is an echo to the sense (as so frequently happens in Virgil), an attempt has been made to produce the same result in English. The general introduction contains whatever is known of the poet's life, an estimate of his genius, an account of the principal editions and translations of his works, and a brief view of the influence he has had on modern poets; special introductory essays are prefixed to the "Eclogues," "Georgics," and "Æneid." The text is divided into sections, each of which is headed by a concise analysis of the subject; the Index contains references to all the characters and events of any importance. "A more complete edition of Virgil in English it is scarcely possible to conceive than the scholarly work before us."—GLOBE.

Wright.—Works by J. WRIGHT, M.A., late Head Master of Sutton Coldfield School.

HELLENICA; OR, A HISTORY OF GREECE IN GREEK, as related by Diodorus and Thucydides; being a First Greek Reading Book, with explanatory Notes, Critical and Historical. Third Edition, with a Vocabulary. 12mo. 3*s.* 6*d.*

In the last twenty chapters of this volume, Thucydides sketches the rise and progress of the Athenian Empire in so clear a style and in such simple language, that the editor has doubts whether any easier or more instructive passages can be selected for the use of the pupil who is commencing Greek. This book includes a chronological table of the events recorded. The GUARDIAN *speaks of the work as "a good plan well executed."*

A HELP TO LATIN GRAMMAR; or, The Form and Use of Words in Latin, with Progressive Exercises. Crown 8vo. 4*s.* 6*d.*

This book is not intended as a rival to any of the excellent Grammars now in use; but as a help to enable the beginner to understand them.

THE SEVEN KINGS OF ROME. An Easy Narrative, abridged from the First Book of Livy by the omission of Difficult Passages; being a First Latin Reading Book, with Grammatical Notes. Fifth Edition. Fcap. 8vo. 3*s.* With Vocabulary, 3*s.* 6*d.*

Wright—*continued.*

This work is intended to supply the pupil with an easy construing book, which may at the same time be made the vehicle for instructing him in the rules of grammar and principles of composition. The notes profess to teach what is commonly taught in grammars. It is conceived that the pupil will learn the rules of construction of the language much more easily from separate examples, which are pointed out to him in the course of his reading, and which he may himself set down in his note-book after some scheme of his own, than from a heap of quotations amassed for him by others. "The Notes are abundant, explicit, and full of such grammatical and other information as boys require."—ATHENÆUM. *"This is really," the* MORNING POST *says, "what its title imports, and we believe that its general introduction into Grammar Schools would not only facilitate the progress of the boys beginning to learn Latin, but also relieve the Masters from a very considerable amount of irksome labour . . . . a really valuable addition to our school libraries."*

FIRST LATIN STEPS; OR, AN INTRODUCTION BY A SERIES OF EXAMPLES TO THE STUDY OF THE LATIN LANGUAGE. Crown 8vo. 5*s.*

The following points in the plan of the work may be noted:—1. *The pupil has to deal with only one construction at a time.* 2. *This construction is made clear to him by an accumulation of instances.* 3. *As all the constructions are classified as they occur, the construction in each sentence can be easily referred to its class.* 4. *As the author thinks the pupil ought to be thoroughly familiarized, by a repetition of instances, with a construction in a foreign language, before he attempts himself to render it in that language, the present volume contains only Latin sentences.* 5. *The author has added to the Rules on Prosody in the last chapter, a few familiar lines from Ovid's Fasti by way of illustration. In a brief Introduction the author states the rationale of the principal points of Latin Grammar. Copious Notes are appended, to which reference is made in the text. From the clear and rational method adopted in the arrangement of this elementary work, from the simple way in which the various rules are conveyed, and from the abundance of examples given, both teachers and pupils will find it a valuable help to the learning of Latin.*

CLASSIC VERSIONS OF ENGLISH BOOKS AND LATIN HYMNS.

THE following works are, as the heading indicates, classic renderings of English Books. For scholars, and particularly for writers of Latin Verse, the series has a special value. The Hymni Ecclesiæ are here inserted, as partly falling under the same class.

Church (A. J., A.M.)—HORÆ TENNYSONIANÆ, sive Eclogae e Tennysono. Latine redditæ. Cura A. J. CHURCH, A.M. Extra fcap. 8vo. 6*s.*

Latin versions of Selections from Tennyson. Among the authors are the Editor, the late Professor Conington, Professor Seeley, Dr. Hessey, Mr. Kebbel, and other gentlemen.

Latham.—SERTUM SHAKSPERIANUM, Subnexis aliquot aliunde excerptis floribus. Latine reddidit Rev. H. LATHAM, M.A. Extra fcap. 8vo. 5*s.*

Besides versions of Shakespeare this volume contains, among other pieces, Gray's "Elegy," Campbell's "Hohenlinden," Wolfe's "Burial of Sir John Moore," and selections from Cowper and George Herbert.

Lyttelton.—THE COMUS OF MILTON, rendered into Greek Verse. By LORD LYTTELTON. Extra fcap. 8vo. 5*s.*

THE SAMSON AGONISTES OF MILTON, rendered into Greek Verse. By LORD LYTTELTON. Extra fcap. 8vo. 6*s.* 6*d.*

Merivale.—KEATS' HYPERION, rendered into Latin Verse. By C. MERIVALE, B.D. Second Edit. Extra fcap. 8vo. 3*s.* 6*d.*

Newman. — HYMNI ECCLESIÆ. Edited by the Rev. DR. NEWMAN. Extra fcap. 8vo. 7*s.* 6*d.*

Hymns of the Mediæval Church. The first Part contains selections from the Parisian Breviary; the second from those of Rome, Salisbury, and York.

Trench (Archbishop). — SACRED LATIN POETRY, chiefly Lyrical, selected and arranged for Use; with Notes and Introduction. Fcap. 8vo. 7*s.*

In this work the editor has selected hymns of a catholic religious sentiment that are common to Christendom, while rejecting those of a distinctively Romish character.

MATHEMATICS.

Airy.—Works by SIR G. B. AIRY, K.C.B., Astronomer Royal :—

ELEMENTARY TREATISE ON PARTIAL DIFFERENTIAL EQUATIONS. Designed for the Use of Students in the Universities. With Diagrams. Crown 8vo. cloth. 5*s.* 6*d.*

It is hoped that the methods of solution here explained, and the instances exhibited, will be found sufficient for application to nearly all the important problems of Physical Science, which require for their complete investigation the aid of Partial Differential Equations.

ON THE ALGEBRAICAL AND NUMERICAL THEORY OF ERRORS OF OBSERVATIONS AND THE COMBINATION OF OBSERVATIONS. Crown 8vo. cloth. 6*s.* 6*d.*

In order to spare astronomers and observers in natural philosophy the confusion and loss of time which are produced by referring to the ordinary treatises embracing both *branches of probabilities (the first relating to chances which can be altered only by the changes of entire units or integral multiples of units in the fundamental conditions of the problem; the other concerning those chances which have respect to insensible gradations in the value of the element measured), the present tract has been drawn up. It relates only to errors of observation, and to the rules, derivable from the consideration of these errors, for the combination of the results of observations.*

Airy (G. B.)—*continued.*

UNDULATORY THEORY OF OPTICS. Designed for the Use of Students in the University. New Edition. Crown 8vo. cloth. 6*s.* 6*d.*

The undulatory theory of optics is presented to the reader as having the same claims to his attention as the theory of gravitation: namely, that it is certainly true, and that, by mathematical operations of general elegance, it leads to results of great interest. This theory explains with accuracy a vast variety of phenomena of the most complicated kind. The plan of this tract has been to include those phenomena only which admit of calculation, and the investigations are applied only to phenomena which actually have been observed.

ON SOUND AND ATMOSPHERIC VIBRATIONS. With the Mathematical Elements of Music. Designed for the Use of Students of the University. Second Edition, Revised and Enlarged. Crown 8vo. 9*s.*

This volume consists of sections, which again are divided into numbered articles, on the following topics:—General recognition of the air as the medium which conveys sound; Properties of the air on which the formation and transmission of sound depend; Theory of undulations as applied to sound, &c.; Investigation of the motion of a wave of air through the atmosphere; Transmission of waves of soniferous vibrations through different gases, solids, and fluids; Experiments on the velocity of sound, &c.; On musical sounds, and the manner of producing them; On the elements of musical harmony and melody, and of simple musical composition; On instrumental music; On the human organs of speech and hearing.

A TREATISE OF MAGNETISM. Designed for the use of Students in the University. Crown 8vo. 9*s.* 6*d.*

As the laws of Magnetic Force have been experimentally examined with philosophical accuracy, only in its connection with iron and steel, and in the influences excited by the earth as a whole, the accurate portions of this work are confined to the investigations connected with these metals and the earth. The latter part of the work, however, treats in a more general way of the laws of the connection between Magnetism on the other hand and Galvanism and Thermo-electricity on the other. The work is divided into Twelve Sections, and each section into numbered articles, each of which states concisely the subject of the following paragraphs.

Airy (Osmund).—A TREATISE ON GEOMETRICAL OPTICS. Adapted for the use of the Higher Classes in Schools. By OSMUND AIRY, B.A., one of the Mathematical Masters in Wellington College. Extra fcap. 8vo. 3*s.* 6*d.*

"*This is, I imagine, the first time that any attempt has been made to adapt the subject of Geometrical Optics to the reading of the higher classes in our good schools. That this should be so is the more a matter for remark, since the subject would appear to be peculiarly fitted for such an adaptation. . . . . I have endeavoured, as much as possible, to avoid the example of those popular lecturers who explain difficulties by ignoring them. But as the nature of my design necessitated brevity, I have omitted entirely one or two portions of the subject which I considered unnecessary to a clear understanding of the rest, and which appear to me better learnt at a more advanced stage.*"—AUTHOR'S PREFACE. "*This book,*" *the* ATHENÆUM *says,* "*is carefully and lucidly written, and rendered as simple as possible by the use in all cases of the most elementary form of investigation.*"

Bayma.—THE ELEMENTS OF MOLECULAR MECHANICS. By JOSEPH BAYMA, S.J., Professor of Philosophy. Stonyhurst College. Demy 8vo. cloth. 10*s.* 6*d.*

Of the Twelve Books into which the present treatise is divided, the first and second give the demonstration of the principles which bear directly on the constitution and the properties of matter. The next three books contain a series of theorems and of problems on the laws of motion of elementary substances. In the sixth and seventh, the mechanical constitution of molecules is investigated and determined: and by it the general properties of bodies are explained. The eighth book treats of luminiferous æther. The ninth explains some special properties of bodies. The tenth and eleventh contain a radical and lengthy investigation of chemical principles and relations, which may lead to practical results of high importance. The twelfth and last book treats of molecular masses, distances, and powers.

Beasley.—AN ELEMENTARY TREATISE ON PLANE TRIGONOMETRY. With Examples. By R. D. BEASLEY, M.A., Head Master of Grantham Grammar School. Fourth Edition, revised and enlarged. Crown 8vo. cloth. 3*s.* 6*d.*

This treatise is specially intended for use in schools. The choice of matter has been chiefly guided by the requirements of the three days' examination

at Cambridge. About four hundred examples were added to the second edition, mainly collected from the Examination Papers of the last ten years. In this edition several new articles have been added, the examples have been largely increased, and a series of Examination Papers appended.

Blackburn (Hugh).—ELEMENTS OF PLANE TRIGONOMETRY, for the use of the Junior Class of Mathematics in the University of Glasgow. By HUGH BLACKBURN, M.A., Professor of Mathematics in the University of Glasgow. Globe 8vo. 1*s.* 6*d.*

The author having felt the want of a short treatise to be used as a Text-Book after the Sixth Book of Euclid had been learned and some knowledge of Algebra acquired, which should contain satisfactory demonstrations of the propositions to be used in teaching Junior Students the solution of Triangles, and should at the same time lay a solid foundation for the study of Analytical Trigonometry, thinking that others may have felt the same want, has attempted to supply it by the publication of this little work.

Boole.—Works by G. BOOLE, D.C.L., F.R.S., Professor of Mathematics in the Queen's University, Ireland.

A TREATISE ON DIFFERENTIAL EQUATIONS. New and Revised Edition. Edited by I. TODHUNTER. Crown 8vo. cloth. 14*s.*

Professor Boole has endeavoured in this treatise to convey as complete an account of the present state of knowledge on the subject of Differential Equations as was consistent with the idea of a work intended, primarily, for elementary instruction. The earlier sections of each chapter contain that kind of matter which has usually been thought suitable for the beginner, while the latter ones are devoted either to an account of recent discovery, or the discussion of such deeper questions of principle as are likely to present themselves to the reflective student in connection with the methods and processes of his previous course. "A treatise incomparably superior to any other elementary book on the same subject with which we are acquainted."—PHILOSOPHICAL MAGAZINE.

A TREATISE ON DIFFERENTIAL EQUATIONS. Supplementary Volume. Edited by I. TODHUNTER. Crown 8vo. cloth. 8*s.* 6*d.*

Boole—*continued.*

This volume contains all that Professor Boole wrote for the purpose of enlarging his treatise on Differential Equations.

THE CALCULUS OF FINITE DIFFERENCES. Crown 8vo. cloth. 10*s.* 6*d.* New Edition, revised by J. F. MOULTON.

In this exposition of the Calculus of Finite Differences, particular attention has been paid to the connection of its methods with those of the Differential Calculus—a connection which in some instances involves far more than a merely formal analogy. The work is in some measure designed as a sequel to Professor Boole's Treatise on Differential Equations. "*As an original book by one of the first mathematicians of the age, it is out of all comparison with the mere second-hand compilations which have hitherto been alone accessible to the student.*"—PHILOSOPHICAL MAGAZINE.

Brook-Smith (J.)—ARITHMETIC IN THEORY AND PRACTICE. By J. BROOK-SMITH, M.A., LL.B., St. John's College, Cambridge; Barrister-at-Law; one of the Masters of Cheltenham College. Complete, Crown 8vo. 4*s.* 6*d.* Part I. 3*s.* 6*d.*

Writers on Arithmetic at the present day feel the necessity of explaining the principles on which the rules of the subject are based, but few as yet feel the necessity of making these explanations strict and complete. If the science of Arithmetic is to be made an effective instrument in developing and strengthening the mental powers, it ought to be worked out rationally and conclusively; and in this work the author has endeavoured to reason out in a clear and accurate manner the leading propositions of the science, and to illustrate and apply those propositions in practice. In the practical part of the subject he has advanced somewhat beyond the majority of preceding writers; particularly in Division, in Greatest Common Measure, in Cube Root, in the Chapters on Decimal Money and the Metric System, and more especially in the application of Decimals to Percentages and cognate subjects. Copious examples, original and selected, are given. "*This strikes us as a valuable Manual of Arithmetic of the Scientific kind. Indeed, this really appears to us the best we have seen.*"—LITERARY CHURCHMAN. "*This is an essentially practical book, providing very definite help to candidates for almost every kind of competitive examination.*"—BRITISH QUARTERLY.

Cambridge Senate-House Problems and Riders, WITH SOLUTIONS:—

1848-1851.—PROBLEMS. By FERRERS and JACKSON. 8vo. cloth. 15*s.* 6*d.*

1848-1851.—RIDERS. By JAMESON. 8vo. cloth. 7*s.* 6*d.*

1854.—PROBLEMS AND RIDERS. By WALTON and MACKENZIE. 8vo. cloth. 10*s.* 6*d.*

1857.—PROBLEMS AND RIDERS. By CAMPION and WALTON. 8vo. cloth. 8*s.* 6*d.*

1860.—PROBLEMS AND RIDERS. By WATSON and ROUTH. Crown 8vo. cloth. 7*s.* 6*d.*

1864.—PROBLEMS AND RIDERS. By WALTON and WILKINSON. 8vo. cloth. 10*s.* 6*d.*

These volumes will be found of great value to Teachers and Students, as indicating the style and range of mathematical study in the University of Cambridge.

CAMBRIDGE COURSE OF ELEMENTARY NATURAL PHILOSOPHY, for the Degree of B.A. Originally compiled by J. C. SNOWBALL, M.A., late Fellow of St. John's College. Fifth Edition, revised and enlarged, and adapted for the Middle-Class Examinations by THOMAS LUND, B.D., Late Fellow and Lecturer of St. John's College, Editor of Wood's Algebra, &c. Crown 8vo. cloth. 5*s.*

This work will be found adapted to the wants, not only of University Students, but also of many others who require a short course of Mechanics and Hydrostatics, and especially of the candidates at our Middle Class Examinations. At the end of each chapter a series of easy questions is added for the exercise of the student.

CAMBRIDGE AND DUBLIN MATHEMATICAL JOURNAL. The Complete Work, in Nine Vols. 8vo. cloth. 7*l.* 4*s.*

Only a few copies remain on hand. Among Contributors to this work will be found Sir W. Thomson, Stokes, Adams, Boole, Sir W. R. Hamilton, De Morgan, Cayley, Sylvester, Jellett, and other distinguished mathematicians.

Candler.—HELP TO ARITHMETIC. Designed for the use of Schools. By H. CANDLER, M.A., Mathematical Master of Uppingham School. Extra fcap. 8vo. 2*s.* 6*d.*

This work is intended as a companion to any text-book that may be in use. "*The main difficulties which boys experience in the different rules are skilfully dealt with and removed.*"—MUSEUM.

Cheyne.—Works by C. H. H. CHEYNE, M.A., F.R.A.S.

AN ELEMENTARY TREATISE ON THE PLANETARY THEORY. With a Collection of Problems. Second Edition. Crown 8vo. cloth. 6*s.* 6*d.*

In this volume an attempt has been made to produce a treatise on the Planetary theory, which, being elementary in character, should be so far complete as to contain all that is usually required by students in the University of Cambridge. In the New Edition the work has been carefully revised. The stability of the Planetary System has been more fully treated, and an elegant geometrical explanation of the formulæ for the secular variation of the node and inclination has been introduced.

THE EARTH'S MOTION OF ROTATION. Crown 8vo. 3*s.* 6*d.*

The first part of this work consists of an application of the method of the variation of elements to the general problem of rotation. In the second part the general rotation formulæ are applied to the particular case of the earth.

Childe.—THE SINGULAR PROPERTIES OF THE ELLIPSOID AND ASSOCIATED SURFACES OF THE NTH DEGREE. By the Rev. G. F. CHILDE, M.A., Author of "Ray Surfaces," "Related Caustics," &c. 8vo. 10*s.* 6*d.*

The object of this volume is to develop peculiarities in the Ellipsoid; and, further, to establish analogous properties in the unlimited congeneric series of which this remarkable surface is a constituent.

Christie.—A COLLECTION OF ELEMENTARY TEST-QUESTIONS IN PURE AND MIXED MATHEMATICS; with Answers and Appendices on Synthetic Division, and on the Solution of Numerical Equations by Horner's Method. By JAMES R. CHRISTIE, F.R.S., late First Mathematical Maste. at the Royal Military Academy, Woolwich. Crown 8vo. cloth. 8*s.* 6*d.*

This series of Mathematical Exercises is collected from those which the author has, from time to time, proposed for solution by his pupils during

a long career at the Royal Military Academy. A student who finds that he is able to solve the larger portion of these Exercises, may consider that he is thoroughly well grounded in the elementary principles of pure and mixed Mathematics.

Dalton.—ARITHMETICAL EXAMPLES. Progressively arranged, with Exercises and Examination Papers. By the Rev. T. DALTON, M.A., Assistant Master of Eton College. New Edition. 18mo. cloth. 2*s.* 6*d.* *Answers to the Examples are appended.*

Day.—PROPERTIES OF CONIC SECTIONS PROVED GEOMETRICALLY. PART I., THE ELLIPSE, with Problems. By the Rev. H. G. DAY, M.A., Head Master of Sedburgh Grammar School. Crown 8vo. 3*s.* 6*d.*

The object of this book is the introduction of a treatment of Conic Sections which should be simple and natural, and lead by an easy transition to the analytical methods, without departing from the strict geometry of Euclid.

Dodgson.—AN ELEMENTARY TREATISE ON DETERMINANTS, with their Application to Simultaneous Linear Equations and Algebraical Geometry. By CHARLES L. DODGSON, M.A., Student and Mathematical Lecturer of Christ Church, Oxford. Small 4to. cloth. 10*s.* 6*d.*

The object of the author is to present the subject as a continuous chain of argument, separated from all accessories of explanation or illustration. All such explanation and illustration as seemed necessary for a beginner are introduced, either in the form of foot-notes, or, where that would have occupied too much room, of Appendices. "*The work,*" *says the* EDUCATIONAL TIMES, "*forms a valuable addition to the treatises we possess on Modern Algebra.*"

Drew.—GEOMETRICAL TREATISE ON CONIC SECTIONS. By W. H. DREW, M.A., St. John's College, Cambridge. Fourth Edition. Crown 8vo. cloth. 4*s.* 6*d.*

In this work the subject of Conic Sections has been placed before the student in such a form that, it is hoped, after mastering the elements of Euclid, he

Drew—*continued.*

may find it an easy and interesting continuation of his geometrical studies. With a view, also, of rendering the work a complete manual of what is required at the Universities, there have either been embodied into the text or inserted among the examples, every book-work question, problem, and rider, which has been proposed in the Cambridge examinations up to the present time.

SOLUTIONS TO THE PROBLEMS IN DREW'S CONIC SECTIONS. Crown 8vo. cloth. 4*s.* 6*d.*

Earnshaw (S.) — PARTIAL DIFFERENTIAL EQUATIONS. An Essay towards an entirely New Method of Integrating them. By S. EARNSHAW, M.A., St. John's College, Cambridge. Crown 8vo. 5*s.*

The peculiarity of the system expounded in this work is, that in every equation, whatever be the number of original independent variables, the work of integration is at once reduced to the use of one independent variable only. The author's object is merely to render his method thoroughly intelligible. The various steps of the investigation are all obedient to one general principle, and though in some degree novel, are not really difficult, but on the contrary easy when the eye has become accustomed to the novelties of the notation. Many of the results of the integrations are far more general than they were in the shape in which they have appeared in former treatises, and many Equations will be found in this Essay integrated with ease in finite terms which were never so integrated before.

Edgar (J. H.) and Pritchard (G. S.)—NOTE-BOOK ON PRACTICAL SOLID OR DESCRIPTIVE GEOMETRY. Containing Problems with help for Solutions. By J. H. EDGAR, M.A., Lecturer on Mechanical Drawing at the Royal School of Mines, and G. S. PRITCHARD, late Master for Descriptive Geometry, Royal Military Academy, Woolwich. Second Edition, revised and enlarged. Globe 8vo. 3*s.*

In teaching a large class, if the method of lecturing and demonstrating from the black board only is pursued, the more intelligent students have generally to be kept back, from the necessity of frequent repetition, for the sake of the less promising; if the plan of setting problems to each pupil is adopted, the teacher finds a difficulty in giving to each sufficient attention.

A judicious combination of both methods is doubtless the best; and it is hoped that this result may be arrived at in some degree by the use of this book, which is simply a collection of examples, with helps for solution, arranged in progressive sections. The new edition has been enlarged by the addition of chapters on the straight line and plane, with explanatory diagrams and exercises on tangent planes, and on the cases of the spherical triangle.

Ferrers.—AN ELEMENTARY TREATISE ON TRILINEAR CO-ORDINATES, the Method of Reciprocal Polars, and Theory of Projectors. By the Rev. N. M. FERRERS, M.A., Fellow and Tutor of Gonville and Caius College, Cambridge. Second Edition. Crown 8vo. 6*s.* 6*d.*

The object of the author in writing on this subject has mainly been to place it on a basis altogether independent of the ordinary Cartesian system, instead of regarding it as only a special form of Abridged Notation. A short chapter on Determinants has been introduced.

Frost.—Works by PERCIVAL FROST, M.A., formerly Fellow of St. John's College, Cambridge; Mathematical Lecturer o King's College.

AN ELEMENTARY TREATISE ON CURVE TRACING. PERCIVAL FROST, M.A. 8vo. 12*s.*

The author has written this book under the conviction that the skill and power of the young mathematical student, in order to be thoroughly available afterwards, ought to be developed in all possible directions. The subject which he has chosen presents so many faces, that it would be difficult to find another which, with a very limited extent of reading, combines, to the same extent, so many valuable hints of methods of calculations to be employed hereafter, with so much pleasure in its present use. In order to understand the work it is not necessary to have much knowledge of what is called Higher Algebra, nor of Algebraical Geometry of a higher kind than that which simply relates to the Conic Sections. From the study of a work like this, it is believed that the student wi derive many advantages. Especially he will become skilled in making correct approximations to the values of quantities, which cannot be found exactly, to any degree of accuracy which may be required.

Frost—*continued.*

THE FIRST THREE SECTIONS OF NEWTON'S PRINCIPIA. With Notes and Illustrations. Also a collection of Problems, principally intended as Examples of Newton's Methods. By PERCIVAL FROST, M.A. Second Edition. 8vo. cloth. 10*s.* 6*d.*

The author's principal intention is to explain difficulties which may be encountered by the student on first reading the Principia, *and to illustrate the advantages of a careful study of the methods employed by Newton, by showing the extent to which they may be applied in the solution of problems; he has also endeavoured to give assistance to the student who is engaged in the study of the higher branches of mathematics, by representing in a geometrical form several of the processes employed in the Differential and Integral Calculus, and in the analytical investigations of Dynamics.*

Frost and Wolstenholme.—A TREATISE ON SOLID GEOMETRY. By PERCIVAL FROST, M.A., and the Rev. J. WOLSTENHOLME, M.A., Fellow and Assistant Tutor of Christ's College. 8vo. cloth. 18*s.*

The authors have endeavoured to present before students as comprehensive a view of the subject as possible. Intending to make the subject accessible, at least in the earlier portion, to all classes of students, they have endeavoured to explain completely all the processes which are most useful in dealing with ordinary theorems and problems, thus directing the student to the selection of methods which are best adapted to the exigencies of each problem. In the more difficult portions of the subject, they have considered themselves to be addressing a higher class of students; and they have there tried to lay a good foundation on which to build, if any reader should wish to pursue the science beyond the limits to which the work extends.

Godfray.—Works by HUGH GODFRAY, M.A., Mathematical Lecturer at Pembroke College, Cambridge.

A TREATISE ON ASTRONOMY, for the Use of Colleges and Schools. 8vo. cloth. 12*s.* 6*d.*

This book embraces all those branches of Astronomy which have, from time to time, been recommended by the Cambridge Board of Mathematical Studies: but by far the larger and easier portion, adapted to the first three days of the Examination for Honours, may be read by the more

Godfray—*continued.*

advanced pupils in many of our schools. The author's aim has been to convey clear and distinct ideas of the celestial phenomena. "It is a working book," says the GUARDIAN, *"taking Astronomy in its proper place in mathematical sciences. . . . It is a book which is not likely to be got up unintelligently."*

AN ELEMENTARY TREATISE ON THE LUNAR THEORY, with a Brief Sketch of the Problem up to the time of Newton. Second Edition, revised. Crown 8vo. cloth. 5*s.* 6*d.*

These pages will, it is hoped, form an introduction to more recondite works. Difficulties have been discussed at considerable length. The selection of the method followed with regard to analytical solutions, which is the same as that of Airy, Herschel, &c. was made on account of its simplicity; it is, moreover, the method which has obtained in the University of Cambridge. "As an elementary treatise and introduction to the subject, we think it may justly claim to supersede all former ones."—LONDON, EDIN. AND DUBLIN PHIL. MAGAZINE.

Hemming.—AN ELEMENTARY TREATISE ON THE DIFFERENTIAL AND INTEGRAL CALCULUS, for the Use of Colleges and Schools. By G. W. HEMMING, M.A., Fellow of St. John's College, Cambridge. Second Edition, with Corrections and Additions. 8vo. cloth. 2*s.*

"There is no book in common use from which so clear and exact a knowledge of the principles of the Calculus can be so readily obtained."—LITERARY GAZETTE.

Jackson.—GEOMETRICAL CONIC SECTIONS. An Elementary Treatise in which the Conic Sections are defined as the Plane Sections of a Cone, and treated by the Method of Projection. By J. STUART JACKSON, M.A., late Fellow of Gonville and Caius College, Cambridge. 4*s.* 6*d.*

This work has been written with a view to give the student the benefit of the Method of Projections as applied to the Ellipse and Hyperbola. When this Method is admitted into the treatment of the Conic Sections, there are many reasons why they should be defined, not with reference to the focus and direction, but according to the original definition from which

they have their name as plane sections of a cone. This method is calculated to produce a material simplification in these curves, and to make the proof of their properties more easily understood and remembered. It is also a powerful instrument in the solution of a large class of problems relating to these curves.

Jellet (John H.)—A TREATISE ON THE THEORY OF FRICTION. By JOHN H. JELLET, B.D., Senior Fellow of Trinity College, Dublin; President of the Royal Irish Academy. 8vo. 8*s.* 6*d.*

The theory of friction is as truly a part of Rational Mechanics as the theory of gravitation. This book is taken up with a special investigation of the laws of friction; and some of the principles contained in it are believed to be here enunciated for the first time. The work consists of eight Chapters as follows:—I. Definitions and Principles. II. Equilibrium with Friction. III. Extreme Positions of Equilibrium. IV. Movement of a Particle or System of Particles. V. Motion of a Solid Body. VI. Necessary and Possible Equilibrium. VII. Determination of the Actual Value of the Acting Force of Friction. VIII. Miscellaneous Problems— 1. *Problem of the Top.* 2. *Friction Wheels and Locomotives.* 3. *Questions for Exercise.* "*The work is one of great research, and will add much to the already great reputation of its author.*"—SCOTSMAN.

Jones and Cheyne.—ALGEBRAICAL EXERCISES. Progressively arranged. By the Rev. C. A. JONES, M.A., and C. H. CHEYNE, M.A., F.R.A.S., Mathematical Masters of Westminster School. New Edition. 18mo. cloth. 2*s.* 6*d.*

This little book is intended to meet a difficulty which is probably felt more or less by all engaged in teaching Algebra to beginners. It is, that while new ideas are being acquired, old ones are forgotten. In the belief that constant practice is the only remedy for this, the present series of miscellaneous exercises has been prepared. Their peculiarity consists in this, that though miscellaneous they are yet progressive, and may be used by the pupil almost from the commencement of his studies. The book being intended chiefly for Schools and Junior Students, the higher parts of Algebra have not been included.

Kitchener.—A GEOMETRICAL NOTE-BOOK, containing Easy Problems in Geometrical Drawing preparatory to the Study of Geometry. For the Use of Schools. By F. E. KITCHENER, M.A., Mathematical Master at Rugby. New Edition. 4to. 2*s.*

It is the object of this book to make some way in overcoming the difficulties of Geometrical conception, before the mind is called to the attack of Geometrical theorems. A few simple methods of construction are given; and space is left on each page, in order that the learner may draw in the figures.

Morgan.—A COLLECTION OF PROBLEMS AND EXAMPLES IN MATHEMATICS. With Answers. By H. A. MORGAN, M.A., Sadlerian and Mathematical Lecturer of Jesus College, Cambridge. Crown 8vo. cloth. 6*s.* 6*d.*

This book contains a number of problems, chiefly elementary, in the Mathematical subjects usually read at Cambridge. They have been selected from the papers set during late years at Jesus College. Very few of them are to be met with in other collections, and by far the larger number are due to some of the most distinguished Mathematicians in the University.

Newton's PRINCIPIA. Edited by Professor Sir W. THOMSON and Professor BLACKBURN. 4to. cloth. 31*s.* 6*d.*

It is a sufficient guarantee of the excellence of this complete edition of Newton's Principia *that it has been printed for and under the care of Professor Sir William Thomson and Professor Blackburn, of Glasgow University. The following notice is prefixed:—"Finding that all the editions of the* Principia *are now out of print, we have been induced to reprint Newton's last edition* [*of* 1726] *without note or comment, only introducing the 'Corrigenda' of the old copy and correcting typographical errors." The book is of a handsome size, with large type, fine thick paper, and cleanly cut figures, and is the only modern edition containing the whole of Newton's great work. "Undoubtedly the finest edition of the text of the 'Principia' which has hitherto appeared."*—EDUCATIONAL TIMES.

Parkinson.—Works by S. PARKINSON, D.D., F.R.S., Fellow and Tutor of St. John's College, Cambridge.

Parkinson—*continued.*

AN ELEMENTARY TREATISE ON MECHANICS. For the Use of the Junior Classes at the University and the Higher Classes in Schools. With a Collection of Examples. Fourth edition, revised. Crown 8vo. cloth. 9*s.* 6*d.*

In preparing this work the author's object has been to include in it such portions of Theoretical Mechanics as can be conveniently investigated without the use of the Differential Calculus, and so render it suitable as a manual for the junior classes in the University and the higher classes in Schools. With one or two short exceptions, the student is not presumed to require a knowledge of any branches of Mathematics beyond the elements of Algebra, Geometry, and Trigonometry. Several additional propositions have been incorporated in the work for the purpose of rendering it more complete; and the collection of Examples and Problems has been largely increased.

A TREATISE ON OPTICS. Third Edition, revised and enlarged. Crown 8vo. cloth. 10*s.* 6*d.*

A collection of examples and problems has been appended to this work, which are sufficiently numerous and varied in character to afford useful exercise for the student. For the greater part of them, recourse has been had to the Examination Papers set in the University and the several Colleges during the last twenty years.

Phear.—ELEMENTARY HYDROSTATICS. With Numerous Examples. By J. B. PHEAR, M.A., Fellow and late Assistant Tutor of Clare College, Cambridge. Fourth Edition. Crown 8vo. cloth. 5*s.* 6*d.*

This edition has been carefully revised throughout, and many new illustrations and examples added, which it is hoped will increase its usefulness to students at the Universities and in Schools. In accordance with suggestions from many engaged in tuition, answers to all the Examples have been given at the end of the book.

Pratt.—A TREATISE ON ATTRACTIONS, LAPLACE'S FUNCTIONS, AND THE FIGURE OF THE EARTH. By JOHN H. PRATT, M.A., Archdeacon of Calcutta, Author of "The Mathematical Principles of Mechanical Philosophy." Fourth Edition. Crown 8vo. cloth. 6*s.* 6*d.*

The author's chief design in this treatise is to give an answer to the question, "Has the Earth acquired its present form from being originally in a fluid state?" This Edition is a complete revision of the former ones.

Puckle.—AN ELEMENTARY TREATISE ON CONIC SECTIONS AND ALGEBRAIC GEOMETRY. With Numerous Examples and Hints for their Solution; especially designed for the Use of Beginners. By G. H. PUCKLE, M.A. New Edition, revised and enlarged. Crown 8vo. cloth. 7*s.* 6*d.*

This work is recommended by the Syndicate of the Cambridge Local Examinations. The ATHENÆUM *says the author "displays an intimate acquaintance with the difficulties likely to be felt, together with a singular aptitude in removing them."*

Rawlinson.—ELEMENTARY STATICS, by the Rev. GEORGE RAWLINSON, M.A. Edited by the Rev. EDWARD STURGES, M.A., of Emmanuel College, Cambridge, and late Professor of the Applied Sciences, Elphinstone College, Bombay. Crown 8vo. cloth. 4*s.* 6*d.*

Published under the authority of Her Majesty's Secretary of State for India, for use in the Government Schools and Colleges in India.

Reynolds.—MODERN METHODS IN ELEMENTARY GEOMETRY. By E. M. REYNOLDS, M.A., Mathematical Master in Clifton College. Crown 8vo. 3*s.* 6*d.*

This little book has been constructed on one plan throughout, that of always giving in the simplest possible form the direct proof from the nature of the case. The axioms necessary to this simplicity have been assumed without hesitation, and no scruple has been felt as to the increase of their number, or the acceptance of as many elementary notions as common experience places past all doubt. The book differs most from established teaching in its constructions, and in its early application of Arithmetic to Geometry.

Routh.—AN ELEMENTARY TREATISE ON THE DYNAMICS OF THE SYSTEM OF RIGID BODIES. With Numerous Examples. By EDWARD JOHN ROUTH, M.A., late

Fellow and Assistant Tutor of St. Peter's College, Cambridge; Examiner in the University of London. Second Edition, enlarged. Crown 8vo. cloth. 14*s.*

In this edition the author has made several additions to each chapter. He has tried to make each chapter, as far as possible, complete in itself, so that all that relates to any one part of the subject may be found in the same place. This arrangement will enable every student to select his own order in which to read the subject. The Examples which will be found at the end of each chapter have been chiefly selected from the Examination Papers which have been set in the University and the Colleges in the last few years.

WORKS

By the REV. BARNARD SMITH, M.A.,

Rector of Glaston, Rutland, late Fellow and Senior Bursar of St. Peter's College, Cambridge.

ARITHMETIC AND ALGEBRA, in their Principles and Application; with numerous systematically arranged Examples taken from the Cambridge Examination Papers, with especial reference to the Ordinary Examination for the B.A. Degree. Twelfth Edition. Crown 8vo. cloth. 10*s.* 6*d.*

This manual is now extensively used in Schools and Colleges, both in England and in the Colonies. It has also been found of great service for students preparing for the Middle Class and Civil and Military Service Examinations, from the care that has been taken to elucidate the principles *of all the rules. The present edition has been carefully revised. "To all those whose minds are sufficiently developed to comprehend the simplest mathematical reasoning, and who have not yet thoroughly mastered the principles of Arithmetic and Algebra, it is calculated to be of great advantage."*—ATHENÆUM. *Of this work, also, one of the highest possible authorities, the late Dean Peacock, writes: "Mr. Smith's work is a most useful publication. The rules are stated with great clearness. The examples are well selected, and worked out with just sufficient detail, without being encumbered by too minute explanations; and there prevails throughout it that just proportion of theory and practice which is the crowning excellence of an elementary work."*

ARITHMETIC FOR SCHOOLS. New Edition. Crown 8vo. cloth. 4*s.* 6*d.*

Adapted from the author's work on "Arithmetic and Algebra," by the omission of the algebraic portion, and by the introduction of new exercises. The reason of each arithmetical process is fully exhibited. The system of Decimal Coinage is explained; and answers to the exercises are appended at the end. The Arithmetic is characterised as "admirably adapted for instruction, combining just sufficient theory with a large and well-selected collection of exercises for practice."—JOURNAL OF EDUCATION.

Barnard Smith—*continued.*

A KEY TO THE ARITHMETIC FOR SCHOOLS. Tenth Edition. Crown 8vo. cloth. 8*s.* 6*d.*

EXERCISES IN ARITHMETIC. With Answers. Crown 8vo. imp cloth. 2*s.* 6*d.*

Or sold separately, Part I. 1*s.*; Part II. 1*s.*; Answers, 6*d.*

These Exercises have been published in order to give the pupil examples in every rule of Arithmetic. The greater number have been carefully compiled from the latest University and School Examination Papers.

SCHOOL CLASS-BOOK OF ARITHMETIC. 18mo. cloth. 3*s.*

Or sold separately, Parts I. and II. 10*d.* each; Part III. 1*s.*

This manual, published at the request of many schoolmasters, and chiefly intended for National and Elementary Schools, has been prepared on the same plan as that adopted in the author's School Arithmetic, which is in extensive circulation in England and abroad. The Metrical Tables have been introduced, from the conviction on the part of the author that the knowledge of such tables, and the mode of applying them, will be of great use to the rising generation.

KEYS TO SCHOOL CLASS-BOOK OF ARITHMETIC. Complete in one volume, 18mo. cloth, 6*s.* 6*d.*; or Parts I., II., and III., 2*s.* 6*d.* each.

SHILLING BOOK OF ARITHMETIC FOR NATIONAL AND ELEMENTARY SCHOOLS. 18mo. cloth. Or separately, Part I. 2*d.*; Part II. 3*d.*; Part III. 7*d.* Answers, 6*d.*

THE SAME, with Answers complete. 18mo. cloth. 1*s.* 6*d.*

This Shilling Book of Arithmetic has been prepared for the use of National and other schools at the urgent request of numerous Masters of schools both at home and abroad. The Explanations of the Rules and the Examples will, it is hoped, be found suited to the most elementary classes.

KEY TO SHILLING BOOK OF ARITHMETIC. 18mo. cloth. 4*s.* 6*d.*

Barnard Smith—*continued.*

EXAMINATION PAPERS IN ARITHMETIC. 18mo. cloth. 1*s.* 6*d.* The same, with Answers, 18mo. 1*s.* 9*d.*

The object of these Examination Papers is to test students both in the theory and practice of Arithmetic. It is hoped that the method adopted will lead students to deduce results from general principles rather than to apply stated rules. The author believes that the practice of giving examples under particular rules makes the working of Arithmetic quite mechanical, and tends to throw all but very clever boys off their balance when a general paper on the subject is put before them.

KEY TO EXAMINATION PAPERS IN ARITHMETIC. 18mo. cloth. 4*s.* 6*d.*

THE METRIC SYSTEM OF ARITHMETIC, ITS PRINCIPLES AND APPLICATION, with numerous Examples, written expressly for Standard V, in National Schools. Fourth Edition. 18mo. cloth, sewed. 3*d.*

In the New Code of Regulations issued by the Council of Education it is stated "that in all schools children in Standards V. and VI. should know the principles of the Metric System, and be able to explain the advantages to be gained from uniformity in the method of forming multiples and sub-multiples of the unit." In this little book, Mr. Smith clearly and simply explains the principle of the Metric System, and in considerable detail expounds the French system, and its relation to the ordinary English method, taking the pupil on as far as Compound Division. The book contains numerous Examples, and two wood-cuts illustrating the Metric Tables of Surface and Solidity. Answers to the Examples are appended.

A CHART OF THE METRIC SYSTEM, on a Sheet, size 42 in. by 34 in. on Roller, mounted and varnished, price 3*s.* 6*d.* Fourth Edition.

By the New Educational Code it is ordained that a Chart of the Metric System be conspicuously hung up on the walls of every school under Government inspection. The publishers believe that the present Chart will be found to answer all the requirements of the Code, and afford a full and perfectly intelligible view of the principles of the Metric System. The principle of the system is clearly stated and illustrated by examples; the

Barnard Smith—*continued.*

Method of Forming the Tables is set forth; Tables follow, clearly showing the English equivalent of the French measures of—1. *Length*; 2. *Surface*; 3. *Solidity*; 4. *Weight*; 5. *Capacity. At the bottom of the Chart is drawn a full-length Metric Measure, subdivided distinctly and intelligibly into Decimetres, Centimetres, and Millimetres.* "*We do not remember that ever we have seen teaching by a chart more happily carried out.*"—SCHOOL BOARD CHRONICLE.

Also a Small Chart on a Card, price 1*d.*

EASY LESSONS IN ARITHMETIC, combining Exercises in Reading, Writing, Spelling, and Dictation. Part I. for Standard I. in National Schools. Crown 8vo. 9*d.*

Diagrams for School-room walls in preparation.

From the novel method and the illustrations used this little book cannot but tend to make the teaching of Arithmetic even to very young children interesting and successful. If the book be used according to the directions of the author, the method of instruction cannot but prove sound and easy, and acceptable to teacher and child. The Standard of Examination fixed by the Education Department for 1872 *has been adhered to.* THE WESTMINSTER REVIEW *says:*—"*We should strongly advise everyone to study carefully Mr. Barnard Smith's Lessons in Arithmetic, Writing, and Spelling. A more excellent little work for a first introduction to knowledge cannot well be written. Mr. Smith's larger Text-books on Arithmetic and Algebra are already most favourably known, and he has proved now that the difficulty of writing a text-book which begins* ab ovo *is really surmountable; but we shall be much mistaken if this little book has not cost its author more thought and mental labour than any of his more elaborate text-books. The plan to combine arithmetical lessons with those in reading and spelling is perfectly novel, and it is worked out in accordance with the aims of our National Schools; and we are convinced that its general introduction in all elementary schools throughout the country will produce great educational advantages.*"

THE METRIC ARITHMETIC.

This book will go thoroughly into the principles of the System, introducing the money tables of the various countries which have adopted it, and containing a very large number of Examples and Examination Papers. [*Nearly ready.*

Snowball.—THE ELEMENTS OF PLANE AND SPHERICAL TRIGONOMETRY; with the Construction and Use of Tables of Logarithms. By J. C. SNOWBALL, M.A. Tenth Edition. Crown 8vo. cloth. 7*s.* 6*d.*

In preparing the present edition for the press, the text has been subjected to a careful revision; the proofs of some of the more important propositions have been rendered more strict and general; and more than two hundred examples, taken principally from the questions set of late years in the public Examinations of the University and of individual Colleges, have been added to the collection of Examples and Problems for practice.

Tait and Steele.—A TREATISE ON DYNAMICS OF A PARTICLE. With numerous Examples. By Professor TAIT and Mr. STEELE. New Edition, enlarged. Crown 8vo. cloth. 10*s.* 6*d.*

In this treatise will be found all the ordinary propositions, connected with the Dynamics of Particles, which can be conveniently deduced without the use of D'Alembert's Principle. Throughout the book will be found a number of illustrative examples introduced in the text, and for the most part completely worked out; others with occasional solutions or hints to assist the student are appended to each chapter. For by far the greater portion of these, the Cambridge Senate-House and College Examination Papers have been applied to. In the new edition numerous trivial errors, and a few of a more serious character, have been corrected, while many new examples have been added.

Taylor.—GEOMETRICAL CONICS; including Anharmonic Ratio and Projection, with numerous Examples. By C. TAYLOR, B.A., Scholar of St. John's Coll. Camb. Crown 8vo. cloth. 7*s.* 6*d.*

This work contains elementary proofs of the principal properties of Conic Sections, together with chapters on Projection and Anharmonic Ratio.

Tebay.—ELEMENTARY MENSURATION FOR SCHOOLS. With numerous Examples. By SEPTIMUS TEBAY, B.A., Head Master of Queen Elizabeth's Grammar School, Rivington. Extra fcap. 8vo. 3*s.* 6*d.*

The object of the present work is to enable boys to acquire a moderate knowledge of Mensuration in a reasonable time. All difficult and useless matter has been avoided. The examples for the most part are easy, and the rules are concise. "*A very compact useful manual.*"—SPECTATOR.

WORKS

By I. TODHUNTER, M.A., F.R.S.,

Of St. John's College, Cambridge.

"*They are all good, and each volume adds to the value of the rest.*"—FREEMAN. "*Perspicuous language, vigorous investigations, scrutiny of difficulties, and methodical treatment, characterise Mr. Todhunter's works.*"—CIVIL ENGINEER.

THE ELEMENTS OF EUCLID. For the Use of Colleges and Schools. New Edition. 18mo. cloth. 3*s.* 6*d.*

No method of overcoming the difficulties experienced by young students of Euclid appears to be so useful as that of breaking up the demonstrations into their constituent parts; a plan strongly recommended by Professor De Morgan. In the present Edition each distinct assertion in the argument begins a new line; and at the ends of the lines are placed the necessary references to the preceding principles on which the assertions depend. The longer propositions are distributed into subordinate parts, which are distinguished by breaks at the beginning of the lines. Notes, Appendix, and a collection of Exercises are added.

MENSURATION FOR BEGINNERS. With numerous Examples. New Edition. 18mo. cloth. 2*s.* 6*d.*

The subjects included in the present work are those which have usually found a place in Elementary Treatises on Mensuration. The mode of treatment has been determined by the fact that the work is intended for the use of beginners. Accordingly it is divided into short independent chapters, which are followed by appropriate examples. A knowledge of the elements of Arithmetic is all that is assumed; and in connection with most of the Rules of Mensuration it has been found practicable to give such explanations and illustrations as will supply the place of formal mathematical demonstrations, which would have been unsuitable to the character of the work. "*For simplicity and clearness of arrangement it is unsurpassed by any text-book on the subject which has come under our notice.*"—EDUCATIONAL TIMES.

Todhunter (I.)—*continued.*

ALGEBRA FOR BEGINNERS. With numerous Examples. New Edition. 18mo. cloth. 2*s.* 6*d.*

Great pains have been taken to render this work intelligible to young students, by the use of simple language and by copious explanations. In determining the subjects to be included and the space to be assigned to each, the author has been guided by the Papers given at the various examinations in elementary Algebra which are now carried on in this country. The book may be said to consist of three parts. The first part contains the elementary operations in integral and fractional expressions; the second the solution of equations and problems; the third treats of various subjects which are introduced but rarely into Examination Papers, and are more briefly discussed. Provision has at the same time been made for the introduction of easy equations and problems at an early stage—for those who prefer such a course.

KEY TO ALGEBRA FOR BEGINNERS. Crown 8vo. cloth. 6*s.* 6*d.*

TRIGONOMETRY FOR BEGINNERS. With numerous Examples. New Edition. 18mo. cloth. 2*s.* 6*d.*

Intended to serve as an introduction to the larger treatise on Plane Trigonometry, published by the author. The same plan has been adopted as in the Algebra for Beginners: *the subject is discussed in short chapters, and a collection of examples is attached to each chapter. The first fourteen chapters present the geometrical part of Plane Trigonometry; and contain all that is necessary for practical purposes. The range of matter included is such as seems required by the various examinations in elementary Trigonometry which are now carried on in this country. Answers are appended.*

MECHANICS FOR BEGINNERS. With numerous Examples. New Edition. 18mo. cloth. 4*s.* 6*d.*

Intended as a companion to the two preceding books. The work forms an elementary treatise on demonstrative mechanics. A knowledge of the elements at least of the theory of the subject is extremely valuable even for those who are mainly concerned with practical results. The author has accordingly endeavoured to provide a suitable introduction to the study of applied as well as of theoretical mechanics. The work consists of two parts, namely, Statics and Dynamics. It will be found to contain all that is usually comprised in elementary treatises on Mechanics, together with some additions.

Todhunter (I.)—*continued.*

ALGEBRA. For the Use of Colleges and Schools. Fifth Edition. Crown 8vo. cloth. 7*s.* 6*d.*

This work contains all the propositions which are usually included in elementary treatises on Algebra, and a large number of Examples for Exercise. *The author has sought to render the work easily intelligible to students, without impairing the accuracy of the demonstrations, or contracting the limits of the subject. The Examples, about* Sixteen hundred and fifty *in number, have been selected with a view to illustrate every part of the subject. Each chapter is complete in itself; and the work will be found peculiarly adapted to the wants of students who are without the aid of a teacher. The Answers to the Examples, with hints for the solution of some in which assistance may be needed, are given at the end of the book. In the present edition two New Chapters and* Three hundred *miscellaneous Examples have been added. The latter are arranged in sets, each set containing ten Examples. "It has merits which unquestionably place it first in the class to which it belongs."*—EDUCATOR.

KEY TO ALGEBRA FOR THE USE OF COLLEGES AND SCHOOLS. Crown 8vo. 10*s.* 6*d.*

AN ELEMENTARY TREATISE ON THE THEORY OF EQUATIONS. Second Edition, revised. Crown 8vo. cloth. 7*s.* 6*d.*

This treatise contains all the propositions which are usually included in elementary treatises on the theory of Equations, together with Examples for exercise. These have been selected from the College and University Examination Papers, and the results have been given when it appeared necessary. In order to exhibit a comprehensive view of the subject, the treatise includes investigations which are not found in all the preceding elementary treatises, and also some investigations which are not to be found in any of them. For the Second Edition the work has been revised and some additions have been made, the most important being an account of the researches of Professor Sylvester respecting Newton's Rule. "A thoroughly trustworthy, complete, and yet not too elaborate treatise." PHILOSOPHICAL MAGAZINE.

PLANE TRIGONOMETRY. For Schools and Colleges. Fourth Edition. Crown 8vo. cloth. 5*s.*

The design of this work has been to render the subject intelligible to beginners, and at the same time to afford the student the opportunity of

Todhunter (I.)—*continued.*

obtaining all the information which he will require on this branch of Mathematics. Each chapter is followed by a set of Examples: those which are entitled Miscellaneous Examples, *together with a few in some of the other sets, may be advantageously reserved by the student for exercise after he has made some progress in the subject. In the Second Edition the hints for the solution of the Examples have been considerably increased.*

A TREATISE ON SPHERICAL TRIGONOMETRY. New Edition, enlarged. Crown 8vo. cloth. 4*s.* 6*d.*

The present work is constructed on the same plan as the treatise on Plane Trigonometry, to which it is intended as a sequel. In the account of Napier's Rules of Circular Parts, an explanation has been given of a method of proof devised by Napier, which seems to have been overlooked by most modern writers on the subject. Considerable labour has been bestowed on the text in order to render it comprehensive and accurate, and the Examples (selected chiefly from College Examination Papers) have all been carefully verified. "For educational purposes this work seems to be superior to any others on the subject."—CRITIC.

PLANE CO-ORDINATE GEOMETRY, as applied to the Straight Line and the Conic Sections. With numerous Examples. Fourth Edition, revised and enlarged. Crown 8vo. cloth. 7*s.* 6*d.*

The author has here endeavoured to exhibit the subject in a simple manner for the benefit of beginners, and at the same time to include in one volume all that students usually require. In addition, therefore, to the propositions which have always appeared in such treatises, he has introduced the methods of abridged notation, *which are of more recent origin; these methods, which are of a less elementary character than the rest of the work, are placed in separate chapters, and may be omitted by the student at first.*

A TREATISE ON THE DIFFERENTIAL CALCULUS. With numerous Examples. Sixth Edition. Crown 8vo. cloth. 10*s.* 6*d.*

The author has endeavoured in the present work to exhibit a comprehensive view of the Differential Calculus on the method of limits. In the more elementary portions he has entered into considerable detail in the explanations, with the hope that a reader who is without the assistance of a tutor may be enabled to acquire a competent acquaintance with the subject. The method adopted is that of Differential Coefficients. To the different

Todhunter (I.)—*continued.*

chapters are appended examples sufficiently numerous to render another book unnecessary; these examples being mostly selected from College Examination Papers. "*It has already taken its place as* the *text-book on that subject.*"—PHILOSOPHICAL MAGAZINE.

A TREATISE ON THE INTEGRAL CALCULUS AND ITS APPLICATIONS. With numerous Examples. Third Edition, revised and enlarged. Crown 8vo. cloth. 10*s.* 6*d.*

This is designed as a work at once elementary and complete, adapted for the use of beginners, and sufficient for the wants of advanced students. In the selection of the propositions, and in the mode of establishing them, it has been sought to exhibit the principles clearly, and to illustrate all their most important results. The process of summation has been repeatedly brought forward, with the view of securing the attention of the student to the notions which form the true foundation of the Calculus itself, as well as of its most valuable applications. Every attempt has been made to explain those difficulties which usually perplex beginners, especially with reference to the limits *of integrations. A new method has been adopted in regard to the transformation of multiple integrals. The last chapter deals with the Calculus of Variations. A large collection of exercises, selected from College Examination Papers, has been appended to the several chapters.*

EXAMPLES OF ANALYTICAL GEOMETRY OF THREE DIMENSIONS. Third Edition, revised. Crown 8vo. cloth. 4*s.*

A TREATISE ON ANALYTICAL STATICS. With numerous Examples. Third Edition, revised and enlarged. Crown 8vo. cloth. 10*s.* 6*d.*

In this work on statics (*treating of the laws of the equilibrium of bodies*) *will be found all the propositions which usually appear in treatises on Theoretical Statics. To the different chapters examples are appended, which have been principally selected from University Examination Papers. In the Third Edition many additions have been made, in order to illustrate the application of the principles of the subject to the solution of problems.*

A HISTORY OF THE MATHEMATICAL THEORY OF PROBABILITY, from the time of Pascal to that of Laplace. 8vo. 8*s.*

Todhunter (I.)—*continued.*

The subject of this volume has high claims to consideration on account of the subtle problems which it involves, the valuable contributions to analysis which it has produced, its important practical applications, and the eminence of those who have cultivated it. The subject claims all the interest which illustrious names can confer: nearly every great mathematician within the range of a century and a half comes up in the course of the history. The present work, though principally a history, may claim the title of a comprehensive treatise on the Theory of Probability, for it assumes in the reader only so much knowledge as can be gained from an elementary book on Algebra, and introduces him to almost every process and every species of problem which the literature of the subject can furnish. The author has been careful to reproduce the essential elements of the original works which he has analysed, and to corroborate his statements by exact quotations from the originals, in the languages in which they were published.

RESEARCHES IN THE CALCULUS OF VARIATIONS, principally on the Theory of Discontinuous Solutions: an Essay to which the Adams Prize was awarded in the University of Cambridge in 1871. 8vo. 6*s.*

The subject of this Essay was prescribed in the following terms by the Examiners:—"A determination of the circumstances under which discontinuity of any kind presents itself in the solution of a problem of maximum or minimum in the Calculus of Variations, and applications to particular instances. It is expected that the discussion of the instances should be exemplified as far as possible geometrically, and that attention be especially directed to cases of real or supposed failure of the Calculus." The Essay, then, is mainly devoted to the consideration of discontinuous solutions; but incidentally various other questions in the Calculus of Variations are examined and elucidated. The author hopes that he has definitely contributed to the extension and improvement of our knowledge of this refined department of analysis.

Wilson (J. M.)—ELEMENTARY GEOMETRY. Books I. II. III. containing the subjects of Euclid's First Four Books following the Syllabus of Geometry prepared by the Geometrical Association. Third Edition. Extra fcap. 8vo. 3*s.* 6*d.* By J. M. WILSON, M.A., late Fellow of St. John's College, Cambridge, and Mathematical Master of Rugby School.

Wilson (J. M.)—*continued.*

SOLID GEOMETRY AND CONIC SECTIONS. With Appendices on Transversals and Harmonic Division. For the use of Schools. By J. M. WILSON, M.A. Second Edition. Extra fcap. 8vo. 3*s.* 6*d.*

This work is an endeavour to introduce into schools some portions of Solid Geometry which are now very little read in England. The first twenty-one Propositions of Euclid's Eleventh Book are usually all the Solid Geometry that a boy reads till he meets with the subject again in the course of his analytical studies. And this is a matter of regret, because this part of Geometry is specially valuable and attractive. In it the attention of the student is strongly called to the subject matter of the reasoning; the geometrical imagination is exercised; the methods employed in it are more ingenious than those in Plane Geometry, and have greater difficulties to meet; and the applications of it in practice are more varied.

Wilson (W. P.)—A TREATISE ON DYNAMICS. By W. P. WILSON, M.A., Fellow of St. John's College, Cambridge, and Professor of Mathematics in Queen's College, Belfast. 8vo. 9*s.* 6*d.*

"*This treatise supplies a great educational need.*"—EDUCATIONAL TIMES.

Wolstenholme.—A BOOK OF MATHEMATICAL PROBLEMS, on Subjects included in the Cambridge Course. By JOSEPH WOLSTENHOLME, Fellow of Christ's College, sometime Fellow of St. John's College, and lately Lecturer in Mathematics at Christ's College. Crown 8vo. cloth. 8*s.* 6*d.*

CONTENTS:—*Geometry* (*Euclid*)—*Algebra*—*Plane Trigonometry*—*Geometrical Conic Sections*—*Analytical Conic Sections*—*Theory of Equations*—*Differential Calculus*—*Integral Calculus*—*Solid Geometry*—*Statics*—*Elementary Dynamics*—*Newton*—*Dynamics of a Point*—*Dynamics of a Rigid Body*—*Hydrostatics*—*Geometrical Optics*—*Spherical Trigonometry and Plane Astronomy.* "*Judicious, symmetrical, and well arranged.*"—GUARDIAN.

SCIENCE.

ELEMENTARY CLASS-BOOKS.

THE importance of Science as an element of sound education is now generally acknowledged; and accordingly it is obtaining a prominent place in the ordinary course of school instruction. It is the intention of the Publishers to produce a complete series of Scientific Manuals, affording full and accurate elementary information, conveyed in clear and lucid English. The authors are well known as among the foremost men of their several departments; and their names form a ready guarantee for the high character of the books. Subjoined is a list of those Manuals that have already appeared, with a short account of each. Others are in active preparation; and the whole will constitute a standard series specially adapted to the requirements of beginners, whether for private study or for school instruction.

ASTRONOMY, by the Astronomer Royal.

POPULAR ASTRONOMY. With Illustrations. By SIR G. B. AIRY, K.C.B., Astronomer Royal. New Edition. 18mo. cloth. 4*s.* 6*d.*

This work consists of six lectures, which are intended "to explain to intelligent persons the principles on which the instruments of an Observatory are constructed (omitting all details, so far as they are merely subsidiary), and the principles on which the observations made with these instruments are treated for deduction of the distances and weights of the bodies of the Solar System, and of a few stars, omitting all minutiæ of

Elementary Class-Books—*continued.*

formulæ, and all troublesome details of calculation." The speciality of this volume is the direct reference of every step to the Observatory, and the full description of the methods and instruments of observation.

ASTRONOMY.

MR. LOCKYER'S ELEMENTARY LESSONS IN ASTRONOMY. With Coloured Diagram of the Spectra of the Sun, Stars, and Nebulæ, and numerous Illustrations. By J. NORMAN LOCKYER, F.R.S. New Edition. 18mo. 5*s.* 6*d.*

The author has here aimed to give a connected view of the whole subject, and to supply facts, and ideas founded on the facts, to serve as a basis for subsequent study and discussion. The chapters treat of the Stars and Nebulæ; the Sun; the Solar System; Apparent Movements of the Heavenly Bodies; the Measurement of Time; Light; the Telescope and Spectroscope; Apparent Places of the Heavenly Bodies; the Real Distances and Dimensions; Universal Gravitation. The most recent astronomical discoveries are incorporated. Mr. Lockyer's work supplements that of the Astronomer Royal mentioned in the previous article. "The book is full, clear, sound, and worthy of attention, not only as a popular exposition, but as a scientific 'Index.'"—ATHENÆUM. "*The most fascinating of elementary books on the Sciences.*"—NONCONFORMIST.

QUESTIONS ON LOCKYER'S ELEMENTARY LESSONS IN ASTRONOMY. For the Use of Schools. By JOHN FORBES-ROBERTSON. 18mo. cloth limp. 1*s.* 6*d.*

PHYSIOLOGY.

PROFESSOR HUXLEY'S LESSONS IN ELEMENTARY PHYSIOLOGY. With numerous Illustrations. By T. H. HUXLEY, F.R.S., Professor of Natural History in the Royal School of Mines. New Edition. 18mo. cloth. 4*s.* 6*d.*

This book describes and explains, in a series of graduated lessons, the principles of Human Physiology; or the Structure and Functions of the Human Body. The first lesson supplies a general view of the subject. This is followed by sections on the Vascular or Venous System, and the Circulation; the Blood and the Lymph; Respiration; Sources of Loss and of Gain to the Blood; the Function of Alimentation; Motion and Locomotion; Sensations and Sensory Organs; the Organ of Sight; the

Elementary Class-Books—*continued.*

Coalescence of Sensations with one another and with other States of Consciousness; the Nervous System and Innervation; Histology, or the Minute Structure of the Tissues. A Table of Anatomical and Physiological Constants is appended. The lessons are fully illustrated by numerous engravings. The new edition has been thoroughly revised, and a considerable number of new illustrations added, several of these having been taken from the rabbit, the sheep, the dog, and the frog, in order to aid those who attempt to make their knowledge real by acquiring some practical acquaintance with the facts of Anatomy and Physiology. "*Pure gold throughout.*"—GUARDIAN. "*Unquestionably the clearest and most complete elementary treatise on this subject that we possess in any language.*"—WESTMINSTER REVIEW.

QUESTIONS ON HUXLEY'S PHYSIOLOGY FOR SCHOOLS. By T. ALCOCK, M.D. 18mo. 1*s.* 6*d.*

These Questions were drawn up as aids to the instruction of a class of young people in Physiology.

BOTANY.

PROFESSOR OLIVER'S LESSONS IN ELEMENTARY BOTANY. With nearly Two Hundred Illustrations. New Edition. 18mo. cloth. 4*s.* 6*d.*

This book is designed to teach the Elements of Botany on Professor Henslow's plan of selected Types and by the use of Schedules. The earlier chapters, embracing the elements of Structural and Physiological Botany, introduce us to the methodical study of the Ordinal Types. The concluding chapters are entitled, "*How to dry Plants*" *and* "*How to describe Plants.*" *A valuable Glossary is appended to the volume. In the preparation of this work free use has been made of the manuscript materials of the late Professor Henslow.*

CHEMISTRY.

PROFESSOR ROSCOE'S LESSONS IN ELEMENTARY CHEMISTRY, INORGANIC AND ORGANIC. By HENRY E. ROSCOE, F.R.S., Professor of Chemistry in Owens College, Manchester. With numerous Illustrations and Chromo-Litho of the Solar Spectrum, and of the Alkalies and Alkaline Earths, New Edition. 18mo. cloth. 4*s.* 6*d.*

Elementary Class-Books—*continued.*

It has been the endeavour of the author to arrange the most important facts and principles of Modern Chemistry in a plain but concise and scientific form, suited to the present requirements of elementary instruction. For the purpose of facilitating the attainment of exactitude in the knowledge of the subject, a series of exercises and questions upon the lessons have been added. The metric system of weights and measures, and the centigrade thermometric scale, are used throughout the work. The New Edition, besides new wood-cuts, contains many additions and improvements, and includes the most important of the latest discoveries. "*As a standard general text-book it deserves to take a leading place.*"—SPECTATOR. "*We unhesitatingly pronounce it the best of all our elementary treatises on Chemistry.*"—MEDICAL TIMES.

In ordering, please specify *Macmillan's* Edition.

POLITICAL ECONOMY.

POLITICAL ECONOMY FOR BEGINNERS. By MILLICENT G. FAWCETT. New Edition. 18mo. 2*s.* 6*d.*

This work has been written mainly with the hope that a short and elementary book might help to make Political Economy a more popular study in boys' and girls' schools. In order to adapt the book especially for school use, questions have been added at the end of each chapter. In the New Edition each page has been carefully revised, and at the end of each chapter after the questions a few little puzzles have been added, which will add interest to the book and teach the learner to think for himself. "*Clear, compact, and comprehensive.*"—DAILY NEWS. "*The relations of capital and labour have never been more simply or more clearly expounded.*"—CONTEMPORARY REVIEW.

LOGIC.

ELEMENTARY LESSONS IN LOGIC; Deductive and Inductive, with copious Questions and Examples, and a Vocabulary of Logical Terms. By W. STANLEY JEVONS, M.A., Professor of Logic in Owens College, Manchester. New Edition. 18mo. 3*s.* 6*d.*

In preparing these Lessons the author has attempted to show that Logic, even in its traditional form, can be made a highly useful subject of study, and a powerful means of mental exercise. With this view he has avoided the use of superfluous technical terms, and has abstained from entering into questions of a purely speculative or metaphysical character. For the puerile illustrations too often found in works on Logic, examples drawn

Elementary Class-Books—*continued.*

from the distinct objects and ideas treated in the natural and experimental sciences have been generally substituted. At the end of almost every Lesson will be found references to the works in which the student will most profitably continue his reading of the subject treated, so that this little volume may serve as a guide to a more extended course of study. The GUARDIAN *thinks "nothing can be better for a school-book," and the* ATHENÆUM *calls it "a manual alike simple, interesting, and scientific."*

PHYSICS.

LESSONS IN ELEMENTARY PHYSICS. By BALFOUR STEWART, F.R.S., Professor of Natural Philosophy in Owens College, Manchester. With numerous Illustrations and Chromoliths of the Spectra of the Sun, Stars, and Nebulæ. New Edition. 18mo. 4*s.* 6*d.*

A description, in an elementary manner, of the most important of those laws which regulate the phenomena of nature. The active agents, heat, light, electricity, etc., are regarded as varieties of energy, and the work is so arranged that their relation to one another, looked at in this light, and the paramount importance of the laws of energy, are clearly brought out. The volume contains all the necessary illustrations, and a plate representing the Spectra of Sun, Stars, and Nebulæ, forms a frontispiece. The EDUCATIONAL TIMES *calls this "the beau ideal of a scientific text-book, clear, accurate, and thorough."*

PRACTICAL CHEMISTRY.

THE OWENS COLLEGE JUNIOR COURSE OF PRACTICAL CHEMISTRY. By FRANCIS JONES, Chemical Master in the Grammar School, Manchester. With Preface by Professor ROSCOE. With Illustrations. New Edition. 18mo. 2*s.* 6*d.*

This little book contains a short description of a course of Practical Chemistry, which an experience of many years has proved suitable for those commencing the study of the science. It is intended to supplement, not to supplant, instruction given by the teacher. The subject-matter has been very carefully compiled, and many useful cuts are introduced.

ANATOMY.

LESSONS IN ELEMENTARY ANATOMY. By ST. GEORGE MIVART, F.R.S., Lecturer in Comparative Anatomy at St. Mary's Hospital. With upwards of 400 Illustrations. 18mo. 6*s.* 6*d.*

These Lessons are intended for teachers and students of both sexes not already acquainted with Anatomy. The author has endeavoured, by certain additions and by the mode of treatment, also to fit them for students in medicine, and generally for those acquainted with human anatomy, but desirous of learning its more significant relations to the structure of other animals. The LANCET *says, "It may be questioned whether any other work on Anatomy contains in like compass so proportionately great a mass of information." The* MEDICAL TIMES *remarks, "The work is excellent, and should be in the hands of every student of human anatomy."*

MANUALS FOR STUDENTS.

Flower (W. H.)—AN INTRODUCTION TO THE OSTEOLOGY OF THE MAMMALIA. Being the substance of the Course of Lectures delivered at the Royal College of Surgeons of England in 1870. By W. H. FLOWER, F.R.S., F.R.C.S., Hunterian Professor of Comparative Anatomy and Physiology. With numerous Illustrations. Globe 8vo. 7*s.* 6*d.*

Although the present work contains the substance of a Course of Lectures, the form has been changed, so as the better to adapt it as a handbook for students. Theoretical views have been almost entirely excluded: and while it is impossible in a scientific treatise to avoid the employment of technical terms, it has been the author's endeavour to use no more than absolutely necessary, and to exercise due care in selecting only those that seem most appropriate, or which have received the sanction of general adoption. With a very few exceptions the illustrations have been drawn expressly for this work from specimens in the Museum of the Royal College of Surgeons.

Hooker (Dr.)—THE STUDENT'S FLORA OF THE BRITISH ISLANDS. By J. D. HOOKER, C.B., F.R.S., M.D., D.C.L., Director of the Royal Gardens, Kew. Globe 8vo. 10*s.* 6*d.*

The object of this work is to supply students and field-botanists with a fuller account of the Plants of the British Islands than the manuals hitherto in use aim at giving. The Ordinal, Generic, and Specific characters have been re-written, and are to a great extent original, and drawn from living or dried specimens, or both. "Cannot fail to perfectly fulfil the purpose for which it is intended."—LAND AND WATER. *"Containing the fullest and most accurate manual of the kind that has yet appeared."*—PALL MALL GAZETTE.

Oliver (Professor).—FIRST BOOK OF INDIAN BOTANY. By DANIEL OLIVER, F.R.S., F.L.S., Keeper of the Herbarium and Library of the Royal Gardens, Kew, and Professor of Botany in University College, London. With numerous Illustrations. Extra fcap. 8vo. 6*s.* 6*d.*

This manual is, in substance, the author's "Lessons in Elementary Botany," adapted for use in India. In preparing it he has had in view the want, often felt, of some handy résumé *of Indian Botany, which might be serviceable not only to residents of India, but also to any one about to proceed thither, desirous of getting some preliminary idea of the Botany of that country. "It contains a well-digested summary of all essential knowledge pertaining to Indian botany, wrought out in accordance with the best principles of scientific arrangement."*—ALLEN'S INDIAN MAIL.

Other volumes of these Manuals will follow.

Ball (R. S., A.M.)—EXPERIMENTAL MECHANICS. A Course of Lectures delivered at the Royal College of Science for Ireland. By ROBERT STAWELL BALL, A.M., Professor of Applied Mathematics and Mechanics in the Royal College of Science for Ireland (Science and Art Department). Royal 8vo. 16*s.*

The author's aim has been to create in the mind of the student physical ideas corresponding to theoretical laws, and thus to produce a work which may be regarded either as a supplement or an introduction to manuals of theoretic mechanics. To realize this design, the copious use of experimental illustrations was necessary. The apparatus used in the Lectures, and figured in the volume, has been principally built up from Professor Willis's most admirable system. In the selection of the subjects, the question of practical utility has in many cases been regarded as the one of paramount importance. The elementary truths of Mechanics are too well known to admit of novelty, but it is believed that the mode of treatment which is adopted is more or less original. This is especially the case in the Lectures relating to friction, to the mechanical powers, to the strength of timber and structures, to the laws of motion, and to the pendulum. The illustrations, drawn from the apparatus, are nearly all original, and are beautifully executed.

Clodd.—THE CHILDHOOD OF THE WORLD: a Simple Account of Man in Early Times. By EDWARD CLODD, F.R.A.S. Second Edition. Globe 8vo. 3*s.*

PROFESSOR MAX MULLER, *in a letter to the Author, says: "I read your book with great pleasure. I have no doubt it will do good, and I hope you will continue your work. Nothing spoils our temper so much as having to unlearn in youth, manhood, and even old age, so many things which we were taught as children. A book like yours will prepare a far better soil in the child's mind, and I was delighted to have it to read to my children.*"

Cooke (Josiah P., Jun.)—FIRST PRINCIPLES OF CHEMICAL PHILOSOPHY. By JOSIAH P. COOKE, Jun., Ervine Professor of Chemistry and Mineralogy in Harvard College. Crown 8vo. 12*s.*

The object of the author in this book is to present the philosophy of Chemistry in such a form that it can be made with profit the subject of College recitations, and furnish the teacher with the means of testing the student's faithfulness and ability. With this view the subject has been developed in a logical order, and the principles of the science are taught independently of the experimental evidence on which they rest.

Guillemin.—THE FORCES OF NATURE: a Popular Introduction to the study of Physical Phenomena. By AMEDEE GUILLEMIN. Translated from the French by Mrs. NORMAN LOCKYER, and Edited, with Additions and Notes, by J. NORMAN LOCKYER, F.R.S. With 11 Coloured Plates and 455 Woodcuts. Second Edition. Royal 8vo. cloth, gilt. 31*s.* 6*d.*

"*Translator and Editor have done justice to their trust. The text has all the force and flow of original writing, combining faithfulness to the author's meaning with purity and independence in regard to idiom; while the historical precision and accuracy pervading the work throughout, speak of the watchful editorial supervision which has been given to every scientific detail. . . . Altogether, the work may be said to have no parallel, either in point of fulness or attraction, as a popular manual of physical science.*"—SATURDAY REVIEW.

Lockyer.—THE SPECTROSCOPE AND ITS APPLICATIONS. By J. NORMAN LOCKYER, F.R.S. With Coloured Plate and numerous illustrations. Second Edition. Crown 8vo. 3*s.* 6*d.*

This forms volume one of "Nature *Series*," *a Series of Popular Scientific Works now in course of publication, consisting of popular and instructive works, on particular scientific subjects—Scientific Discovery, Applications, History, Biography—by some of the most eminent scientific men of the day. They will be so written as to be interesting and intelligible even to non-scientific readers. Mr. Lockyer's work in Spectrum Analysis is widely known. In the present short treatise will be found an exposition of the principles on which Spectrum Analysis rests, a description of the various kinds of Spectroscopes, and an account of what has already been done with the instrument, as well as of what may yet be done both in science and in the industrial arts.*

Roscoe (H. E.)—SPECTRUM ANALYSIS. Six Lectures, with Appendices, Engravings, Maps, and Chromolithographs. By H. E. ROSCOE, F.R.S., Professor of Chemistry in Owens College, Manchester. Third Edition, revised throughout. Royal 8vo. 21*s.*

"*In six lectures he has given the history of the discovery and set forth the facts relating to the analysis of light in such a way that any reader of ordinary intelligence and information will be able to understand what 'Spectrum Analysis' is, and what are its claims to rank among the most signal triumphs of science of which even this century can boast.*"—NONCONFORMIST. "*The illustrations—no unimportant part of a book on such a subject—are marvels of wood-printing, and reflect the clearness which is the distinguishing merit of Mr. Roscoe's explanations.*"—SATURDAY REVIEW. "*The lectures themselves furnish a most admirable elementary treatise on the subject, whilst by the insertion in appendices to each lecture of extracts from the most important published memoirs, the author has rendered it equally valuable as a text-book for advanced students.*"—WESTMINSTER REVIEW.

Thorpe (T. E.)—A SERIES OF CHEMICAL PROBLEMS, for use in Colleges and Schools. Adapted for the preparation of Students for the Government, Science, and Society of Arts Examinations. With a Preface by Professor ROSCOE. 18mo. cloth. 1*s.*

In the Preface Dr. Roscoe says—"My experience has led me to feel more and more strongly that by no method can accuracy in a knowledge of chemistry be more surely secured than by attention to the working of well-selected problems, and Dr. Thorpe's thorough acquaintance with the wants of the student is a sufficient guarantee that this selection has been carefully made. I intend largely to use these questions in my own classes, and I can confidently recommend them to all teachers and students of the science."

Wurtz.—A HISTORY OF CHEMICAL THEORY, from the Age of Lavoisier down to the present time. By AD. WURTZ. Translated by HENRY WATTS, F.R.S. Crown 8vo. 6*s*.

"*The treatment of the subject is admirable, and the translator has evidently done his duty most efficiently.*"—WESTMINSTER REVIEW. "*The discourse, as a* résumé *of chemical theory and research, unites singular luminousness and grasp. A few judicious notes are added by the translator.*"—PALL MALL GAZETTE.

SCIENCE PRIMERS FOR ELEMENTARY SCHOOLS.

The necessity of commencing the teaching of Science in Schools at an early stage of the pupil's course has now become generally recognized, and is enforced in all Schools under Government inspection. For the purpose of facilitating the introduction of Science Teaching into Elementary Schools, Messrs. Macmillan are now publishing a New Series of Science Primers, under the joint Editorship of Professors HUXLEY, ROSCOE, and BALFOUR STEWART. The object of these Primers is to convey information in such a manner as to make it both intelligible and interesting to pupils in the most elementary classes. They are clearly printed on good paper, and illustrations are given whenever they are necessary to the proper understanding of the text. The following are just published :—

PRIMER OF CHEMISTRY. By H. E. ROSCOE, Professor of Chemistry in Owens College, Manchester. 18mo. 1*s.* Second Edition.

PRIMER OF PHYSICS. By BALFOUR STEWART, Professor of Natural Philosophy in Owens College, Manchester. 18mo. 1*s.* Second Edition.

PRIMER OF PHYSICAL GEOGRAPHY. By ARCHIBALD GEIKIE, F.R.S., Murchison-Professor of Geology and Mineralogy at Edinburgh. Second Edition. 18mo. 1*s.*

Everyone ought to know something about the air we breathe and the earth we live upon, and about the relations between them; and in this little work the author wishes to show what sort of questions may be put about some of the chief parts of the book of nature, and especially about two of them—the Air and the Earth. The divisions of the book are as follows:—The Shape of the Earth—Day and Night—The Air—The Circulation of Water on the Land—The Sea—The Inside of the Earth.

In these Manuals the authors have aimed, not so much to give information, as to endeavour to discipline the mind in a way which has not hitherto been customary, by bringing it into immediate contact with Nature herself. For this purpose a series of simple experiments (to be performed by the teacher) has been devised, leading up to the chief truths of each Science. Thus the power of observation in the pupils will be awakened and strengthened. Each Manual is copiously illustrated, and appended are lists of all the necessary apparatus, with prices, and directions as to how they may be obtained. Professor Huxley's introductory volume has been delayed through the illness of the author, but it is now expected to appear very shortly. "They are wonderfully clear and lucid in their instruction, simple in style, and admirable in plan."—EDUCATIONAL TIMES.

In preparation:—

INTRODUCTORY. By PROFESSOR HUXLEY.

PRIMER OF GEOLOGY. By ARCHIBALD GEIKIE, F.R.S.
[*Just ready.*

PRIMER OF BOTANY. By DR. HOOKER, C.B., F.R.S.

PRIMER OF ASTRONOMY. By J. NORMAN LOCKYER, F.R.S.

&c. &c.

MISCELLANEOUS.

Abbott.—A SHAKESPEARIAN GRAMMAR. An Attempt to illustrate some of the Differences between Elizabethan and Modern English. By the Rev. E. A. ABBOTT, M.A., Head Master of the City of London School. For the Use of Schools. New and Enlarged Edition. Extra fcap. 8vo. 6*s*.

The object of this work is to furnish students of Shakespeare and Bacon with a short systematic account of some points of difference between Elizabethan syntax and our own. A section on Prosody is added, and Notes and Questions. The success which has attended the First and Second Editions of the "SHAKESPEARIAN GRAMMAR," *and the demand for a Third Edition within a year of the publication of the First, have encouraged the author to endeavour to make the work somewhat more useful, and to render it, as far as possible, a complete book of reference for all difficulties of Shakespearian syntax or prosody. For this purpose the whole of Shakespeare has been re-read, and an attempt has been made to include within this Edition the explanation of every idiomatic difficulty that comes within the province of a grammar as distinct from a glossary. The great object being to make a useful book of reference for students, and especially for classes in schools, several Plays have been indexed so fully that with the aid of a glossary and historical notes the references will serve for a complete commentary.* "*A critical inquiry, conducted with great skill and knowledge, and with all the appliances of modern philology . . . . We venture to believe that those who consider themselves most proficient as Shakespearians will find something to learn from its pages.*"—PALL MALL GAZETTE. "*Valuable not only as an aid to the critical study of Shakespeare, but as tending to familiarize the reader with Elizabethan English in general.*"—ATHENÆUM.

Berners.—FIRST LESSONS ON HEALTH. By J. BERNERS. 18mo. 1*s*. Third Edition.

This little book consists of the notes of a number of simple lessons on sanitary subjects given to a class in a National School, and listened to

with great interest and intelligence. They have been made as easy and familiar as possible, and as far as they go may be deemed perfectly trustworthy. One of the author's main attempts has been, to translate the concise and accurate language of science into the colloquial nursery dialect comprehensible to children. The book will be found of the highest value to all who have the training of children, who, for want of knowing what this little book teaches, too often grow up to be unhealthy, defective men and women. The Contents are—I. Introductory. II. Fresh Air. III. Food and Drink. IV. Warmth. V. Cleanliness. VI. Light. VII. Exercise. VIII. Rest.

Besant.—STUDIES IN EARLY FRENCH POETRY. By WALTER BESANT, M.A. Crown 8vo. 8*s.* 6*d.*

A sort of impression rests on most minds that French literature begins with the "siècle de Louis Quatorze;" any previous literature being for the most part unknown or ignored. Few know anything of the enormous literary activity that began in the thirteenth century, was carried on by Rulebeuf, Marie de France, Gaston de Foix, Thibault de Champagne, and Lorris; was fostered by Charles of Orleans, by Margaret of Valois, by Francis the First; that gave a crowd of versifiers to France, enriched, strengthened, developed, and fixed the French language, and prepared the way for Corneille and for Racine. The present work aims to afford information and direction touching these early efforts of France in poetical literature. "In one moderately sized volume he has contrived to introduce us to the very best, if not to all of the early French poets."—ATHENÆUM. *"Industry, the insight of a scholar, and a genuine enthusiasm for his subject, combine to make it of very considerable value."*—SPECTATOR.

Calderwood.—HANDBOOK OF MORAL PHILOSOPHY. By the Rev. HENRY CALDERWOOD, LL.D., Professor of Moral Philosophy, University of Edinburgh. Second Edition. Crown 8vo. 6*s.*

While in this work the interests of University Students have been constantly considered, the author has endeavoured to produce a book suitable to those who wish to prosecute privately the study of Ethical questions. The author has aimed to present the chief problems of Ethical Science, to give an outline of discussion under each, and to afford a guide for private study by references to the Literature of the Science. The uniform object has been to give a careful representation of the conflicting theories, supplying the reader with materials for independent judgment.

Cameos from English History.—See YONGE (C. M.)

Delamotte.—A BEGINNER'S DRAWING BOOK. By P. H. DELAMOTTE, F.S.A. Progressively arranged, with upwards of Fifty Plates. Crown 8vo. Stiff covers. *2s. 6d.*

This work is intended to give such instruction to Beginners in Drawing, and to place before them copies so easy, that they may not find any obstacle in making the first step. Thenceforward the lessons are gradually progressive. Mechanical improvements, too, have lent their aid. The whole of the Plates have been engraved by a new process, by means of which a varying depth of tone—up to the present time the distinguishing characteristic of pencil drawing—has been imparted to woodcuts. "We have seen and examined a great many drawing-books, but the one now before us strikes us as being the best of them all."—ILLUSTRATED TIMES. *"A concise, simple, and thoroughly practical work. The letter-press is throughout intelligible and to the point."*—GUARDIAN.

D'Oursy and Feillet.—A FRENCH GRAMMAR AT SIGHT, on an entirely new method. By A. D'OURSY and A. FEILLET. Especially adapted for Pupils preparing for Examination. Fcap. 8vo. cloth extra. *2s. 6d.*

The method followed in this volume consists in presenting the grammar as much as possible by synoptical tables, which, striking the eye at once, and following throughout the same order—"used—not used;" "changes—does not change"—*are easily remembered. The parsing tables will enable the pupil to parse easily from the beginning. The exercises consist of translations from French into English, and from English into French; and of a number of grammatical questions.*

Green.—A HISTORY OF THE ENGLISH PEOPLE. By the Rev. J. R. GREEN, M.A. For the use of Colleges and Schools. Crown 8vo. *8s. 6d.*

Hales.—LONGER ENGLISH POEMS, with Notes, Philological and Explanatory, and an Introduction on the Teaching of English. Chiefly for use in Schools. Edited by J. W. HALES, M.A., late Fellow and Assistant Tutor of Christ's College, Cambridge, Lecturer in English Literature and Classical Composition at King's College School, London, &c. &c. Extra fcap. 8vo. *4s. 6d.*

This work has been in preparation for some years, and part of it has been used as a class-book by the Editor. It is intended as an aid to the Critical study of English Literature, and contains one or more of the larger poems, each complete, of prominent English authors, from Spenser to Shelley, including Burns' "Cotter's Saturday Night" and "Twa Dogs." In all cases the original spelling and the text of the best editions have been given: only in one or two poems has it been deemed necessary to make slight omissions and changes, "that the reverence due to boys might be well observed." The Introduction consists of Suggestions on Teaching of English. The latter half of the volume is occupied with copious notes, critical, etymological, and explanatory, calculated to give the learner much insight into the structure and connection of the English tongue. An Index to the Notes is appended.

Helfenstein (James).—A COMPARATIVE GRAMMAR OF THE TEUTONIC LANGUAGES. Being at the same time a Historical Grammar of the English Language, and comprising Gothic, Anglo-Saxon, Early English, Modern English, Icelandic (Old Norse), Danish, Swedish, Old High German, Middle High German, Modern German, Old Saxon, Old Frisian, and Dutch. By JAMES HELFENSTEIN, Ph.D. 8vo. 18*s.*

This work traces the different stages of development through which the various Teutonic languages have passed, and the laws which have regulated their growth. The reader is thus enabled to study the relation which these languages bear to one another, and to the English language in particular, to which special attention is devoted throughout. In the chapters on Ancient and Middle Teutonic Languages no grammatical form is omitted the knowledge of which is required for the study of ancient literature, whether Gothic, or Anglo-Saxon, or Early English. To each chapter is prefixed a sketch showing the relation of the Teutonic to the cognate languages, Greek, Latin, and Sanskrit. Those who have mastered the book will be in a position to proceed with intelligence to the more elaborate works of Grimm, Bopp, Pott, Schleicher, and others.

Hole.—A GENEALOGICAL STEMMA OF THE KINGS OF ENGLAND AND FRANCE. By the Rev. C. HOLE. On Sheet. 1*s.*

The different families are printed in distinguishing colours, thus acilitating reference.

Jephson.—SHAKESPEARE'S "TEMPEST." With Glossarial and Explanatory Notes. By the Rev. J. M. JEPHSON. Second Edition. 18mo. 1*s.*

It is important to find some substitute for classical study, and it is believed that such a substitute may be found in the Plays of Shakespeare. For this purpose the present edition of the "Tempest" has been prepared. The introduction treats briefly of the value of the study of language, the fable of the play, and other points. The notes are intended to teach the student to analyse every obscure sentence and trace out the logical sequence of the poet's thoughts; to point out the rules of Shakespeare's versification; to explain obsolete words and meanings; and to guide the student's taste by directing his attention to such passages as seem especially worthy of note for their poetical beauty or truth to nature. The text is in the main founded upon that of the first collected edition of Shakespeare's Plays.

Kington-Oliphant.—THE SOURCES OF STANDARD ENGLISH. By J. KINGTON-OLIPHANT. Globe 8vo. 6*s.*

Martin.—THE POET'S HOUR: Poetry Selected and Arranged for Children. By FRANCES MARTIN. Second Edition. 18mo. 2*s.* 6*d.*

This volume consists of nearly 200 *Poems selected from the best Poets, ancient and modern, and is intended mainly for children between the ages of eight and twelve.*

SPRING-TIME WITH THE POETS. Poetry selected by FRANCES MARTIN. Second Edition. 18mo. 3*s.* 6*d.*

This is a selection of poetry intended mainly for girls and boys between the ages of twelve and seventeen.

Masson (Gustave).—A FRENCH-ENGLISH AND ENGLISH-FRENCH DICTIONARY. By GUSTAVE MASSON, B.A., Assistant Master in Harrow School. Small 4to. 6*s.*

M'Cosh (Rev. Principal).—For other Works by the same Author, *see* PHILOSOPHICAL CATALOGUE.

THE LAWS OF DISCURSIVE THOUGHT. Being a Text-Book of Formal Logic. By JAMES M'COSH, D.D., LL.D. 8vo. 5*s.*

In this treatise the Notion (*with the Term and the Relation of Thought to Language,*) *will be found to occupy a larger relative place than in any logical work written since the time of the famous "Art of Thinking." "We heartily welcome his book as one which is likely to be of great value in Colleges and Schools."*—ATHENÆUM.

Morris.—HISTORICAL OUTLINES OF ENGLISH ACCIDENCE, comprising Chapters on the History and Development of the Language, and on Word-formation. By the Rev. RICHARD MORRIS, LL.D., Member of the Council of the Philol. Soc., Lecturer on English Language and Literature in King's College School, Editor of "Specimens of Early English," &c. &c. Third Edition. Extra fcap. 8vo. 6*s.*

Dr. Morris has endeavoured to write a work which can be profitably used by students and by the upper forms in our public schools. English Grammar, he believes, without a reference to the older forms, must appear altogether anomalous, inconsistent, and unintelligible. His almost unequalled knowledge of early English Literature renders him peculiarly qualified to write a work of this kind. In the writing of this volume, moreover, he has taken advantage of the researches into our language made by all the most eminent scholars in England, America, and on the Continent. The author shows the place of English among the languages of the world, expounds clearly and with great minuteness "Grimm's Law," gives a brief history of the English language and an account of the various dialects, investigates the history and principles of Phonology, Orthography, Accent, and Etymology, and devotes several chapters to the consideration of the various Parts of Speech, and the final one to Derivation and Word-formation. "It makes an era in the study of the English tongue."—SATURDAY REVIEW. *"He has done his work with a fulness and completeness that leave nothing to be desired."*—NONCONFORMIST. *"A genuine and sound book."*—ATHENÆUM.

Oppen.—FRENCH READER. For the Use of Colleges and Schools. Containing a graduated Selection from modern Authors in Prose and Verse; and copious Notes, chiefly Etymological. By EDWARD A. OPPEN. Fcap. 8vo. cloth. 4*s.* 6*d.*

This is a Selection from the best modern authors of France. Its distinctive feature consists in its etymological notes, connecting French with the classical and modern languages, including the Celtic. This subject has hitherto been little discussed even by the best-educated teachers.

Pylodet.—NEW GUIDE TO GERMAN CONVERSATION; containing an Alphabetical List of nearly 800 Familiar Words similar in Orthography or Sound and the same Meaning in both Languages, followed by Exercises, Vocabulary of Words in frequent use, Familiar Phrases and Dialogues; a Sketch of German Literature, Idiomatic Expressions, &c.; and a Synopsis of German Grammar. By L. PYLODET. 18mo. cloth limp. 2*s.* 6*d.*

Sonnenschein and Meiklejohn.—THE ENGLISH METHOD OF TEACHING TO READ. By A. SONNENSCHEIN and J. M. D. MEIKLEJOHN, M.A. Fcap. 8vo.

COMPRISING:

THE NURSERY BOOK, containing all the Two-Letter Words in the Language. 1*d.* (Also in Large Type on Sheets for School Walls. 5*s.*)

THE FIRST COURSE, consisting of Short Vowels with Single Consonants. 3*d.*

THE SECOND COURSE, with Combinations and Bridges, consisting of Short Vowels with Double Consonants. 4*d.*

THE THIRD AND FOURTH COURSES, consisting of Long Vowels, and all the Double Vowels in the Language. 6*d.*

A Series of Books in which an attempt is made to place the process of learning to read English on a scientific basis. This has been done by separating the perfectly regular parts of the language from the irregular, and by giving the regular parts to the learner in the exact order of their difficulty. The child begins with the smallest possible element, and adds to that element one letter—in only one of its functions—at one time. Thus the sequence is natural and complete. "These are admirable books, because they are constructed on a principle, and that the simplest principle on which it is possible to learn to read English."—SPECTATOR.

Taylor.—WORDS AND PLACES; or, Etymological Illustrations of History, Ethnology, and Geography. By the Rev. ISAAC TAYLOR, M.A. Third and cheaper Edition, revised and compressed. With Maps. Globe 8vo. 6*s.*

In this edition the work has been recast with the intention of fitting it for the use of students and general readers, rather than, as before, to

appeal to the judgment of philologers. The book has already been adopted by many teachers, and is prescribed as a text-book in the Cambridge Higher Examinations for Women: and it is hoped that the reduced size and price, and the other changes now introduced, may make it more generally useful than heretofore for Educational purposes.

Thring.—Works by EDWARD THRING, M.A., Head Master of Uppingham.

THE ELEMENTS OF GRAMMAR TAUGHT IN ENGLISH, with Questions. Fourth Edition. 18mo. 2*s.*

This little work is chiefly intended for teachers and learners. It took its rise from questionings in National Schools, and the whole of the first part is merely the writing out in order the answers to questions which have been used already with success. A chapter on Learning Language is especially addressed to teachers.

THE CHILD'S GRAMMAR. Being the Substance of "The Elements of Grammar taught in English," adapted for the Use of Junior Classes. A New Edition. 18mo. 1*s.*

SCHOOL SONGS. A Collection of Songs for Schools. With the Music arranged for four Voices. Edited by the Rev. E. THRING and H. RICCIUS. Folio. 7*s.* 6*d.*

There is a tendency in schools to stereotype the forms of life. Any genial solvent is valuable. Games do much; but games do not penetrate to domestic life, and are much limited by age. Music supplies the want. The collection includes the "Agnus Dei," Tennyson's "Light Brigade," Macaulay's "Ivry," &c. among other pieces.

Trench (Archbishop).—HOUSEHOLD BOOK OF ENGLISH POETRY. Selected and Arranged, with Notes, by R. C. TRENCH, D.D., Archbishop of Dublin. Extra fcap. 8vo. 5*s.* 6*d.* Second Edition.

This volume is called a "Household Book," by this name implying that it is a book for all—that there is nothing in it to prevent it from being confidently placed in the hands of every member of the household. Specimens of all classes of poetry are given, including selections from living authors. The Editor has aimed to produce a book "which the emigrant, finding room for little not absolutely necessary, might yet find room for

Trench (Archbishop).—*continued.*

in his trunk, and the traveller in his knapsack, and that on some narrow shelves where there are few books this might be one." "*The Archbishop has conferred in this delightful volume an important gift on the whole English-speaking population of the world.*"—PALL MALL GAZETTE.

ON THE STUDY OF WORDS. Lectures addressed (originally) to the Pupils at the Diocesan Training School, Winchester. Fourteenth Edition, revised. Fcap. 8vo. 4*s.* 6*d.*

This, it is believed, was probably the first work which drew general attention in this country to the importance and interest of the critical and historical study of English. It still retains its place as one of the most successful, if not the only, exponent of those aspects of words of which it treats. The subjects of the several Lectures are, (1) *Introduction;* (2) *On the Poetry of Words;* (3) *On the Morality of Words;* (4) *On the History of Words;* (5) *On the Rise of New Words;* (6) *On the Distinction of Words;* (7) *The Schoolmaster's Use of Words.*

ENGLISH, PAST AND PRESENT. Eighth Edition, revised and improved. Fcap. 8vo. 4*s.* 6*d.*

This is a series of Eight Lectures, in the first of which Archbishop Trench considers the English language as it now is, decomposes some specimens of it, and thus discovers of what element it is compact. In the second Lecture he considers what the language might have been if the Norman Conquest had never taken place. In the following six Lectures he institutes from various points of view a comparison between the present language and the past, points out gains which it has made, losses which it has endured, and generally calls attention to some of the more important changes through which it has passed, or is at present passing.

A SELECT GLOSSARY OF ENGLISH WORDS, used formerly in Senses Different from their Present. Fourth Edition, enlarged. Fcap. 8vo. 4*s.* 6*d.*

This alphabetically arranged Glossary contains many of the most important of those English words which in the course of time have gradually changed their meanings. The author's object is to point out some of these changes, to suggest how many more there may be, to show how slight and subtle, while yet most real, these changes have often been, to trace here and there the progressive steps by which the old meaning has been put off and the

new put on,—the exact road which a word has travelled. The author thus hopes to render some assistance to those who regard this as a serviceable discipline in the training of their own minds or the minds of others, Although the book is in the form of a Glossary, it will be found as interesting as a series of brief well-told biographies.

Vaughan (C. M.)—A SHILLING BOOK OF WORDS FROM THE POETS By C. M. VAUGHAN. 18mo. cloth.

It has been felt of late years that the children of our parochial schools, and those classes of our countrymen which they commonly represent, are capable of being interested, and therefore benefited also, by something higher in the scale of poetical composition than those brief and somewhat puerile fragments to which their knowledge was formerly restricted. An attempt has been made to supply the want by forming a selection at once various and unambitious; healthy in tone, just in sentiment, elevating in thought, and beautiful in expression.

Whitney.—Works by W. D. WHITNEY, Professor of Sanskrit, and Instructor in Modern Languages in Yale College.

A GERMAN READER IN PROSE AND VERSE, with Notes and Vocabulary. Crown 8vo. 7*s.* 6*d.*

A COMPENDIOUS GERMAN GRAMMAR. Crown 8vo. 6*s.*

Yonge (Charlotte M.)—THE ABRIDGED BOOK OF GOLDEN DEEDS. A Reading Book for Schools and General Readers. By the Author of "The Heir of Redclyffe." 18mo. cloth. 1*s.*

A record of some of the good and great deeds of all time, abridged from the larger work of the same author in the Golden Treasury Series.

HISTORY.

Freeman (Edward A.)—OLD-ENGLISH HISTORY. By EDWARD A. FREEMAN, D.C.L., late Fellow of Trinity College, Oxford. With Five Coloured Maps. Second Edition. Extra fcap. 8vo. half-bound. 6*s*.

The rapid sale of the first edition and the universal approval with which it has been received, show that the author's convictions have been well founded, that his views have been widely accepted both by teachers and learners, and that the work is eminently calculated to serve the purpose for which it was intended. Although full of instruction and calculated highly to interest and even fascinate children, it is a work which may be and has been used with profit and pleasure by all. "I have, I hope," the author says, "shown that it is perfectly easy to teach children, from the very first, to distinguish true history alike from legend and from wilful invention, and also to understand the nature of historical authorities and to weigh one statement against another. I have throughout striven to connect the history of England with the general history of civilized Europe, and I have especially tried to make the book serve as an incentive to a more accurate study of historical geography." In the present edition the whole has been carefully revised, and such improvements as suggested themselves have been introduced. "The book indeed is full of instruction and interest to students of all ages, and he must be a well-informed man indeed who will not rise from its perusal with clearer and more accurate ideas of a too much neglected portion of English History."—SPECTATOR.

Historical Course for Schools.—Edited by EDWARD A. FREEMAN, D.C.L., late Fellow of Trinity College, Oxford.

The object of the present series is to put forth clear and correct views of history in simple language, and in the smallest space and cheapest form in which it could be done. It is meant in the first place for Schools; but it is often found that a book for schools proves useful

for other readers as well, and it is hoped that this may be the case with the little books the first instalment of which is now given to the world. The General Sketch will be followed by a series of special histories of particular countries, which will take for granted the main principles laid down in the General Sketch. In every case the results of the latest historical research will be given in as simple a form as may be, and the several numbers of the series will all be so far under the supervision of the Editor as to secure general accuracy of statement and a general harmony of plan and sentiment; but each book will be the original work of its author, who will be responsible for his own treatment of smaller details. The Editor himself undertakes the histories of Rome and Switzerland, while the others have been put into the hands of various competent and skilful writers.

The first volume is meant to be introductory to the whole course. It is intended to give, as its name implies, a general sketch of the history of the civilized world, that is, of Europe, and of the lands which have drawn their civilization from Europe. Its object is to trace out the general relations of different periods and different countries to one another, without going minutely into the affairs of any particular country. This is an object of the first importance, for without clear notions of general history, the history of particular countries can never be rightly understood. The narrative extends from the earliest movements of the Aryan peoples, down to the latest events both on the Eastern and Western Continents. The book consists of seventeen moderately sized chapters, each chapter being divided into a number of short numbered paragraphs, each with a title prefixed clearly indicative of the subject of the paragraph. "*It supplies the great want of a good foundation for historical teaching. The scheme is an excellent one, and this instalment has been executed in a way that promises much for the volumes that are yet to appear.*"—EDUCATIONAL TIMES.

I. GENERAL SKETCH OF EUROPEAN HISTORY. By EDWARD A. FREEMAN, D.C.L. Third Edition. 18mo. cloth. 3*s.* 6*d.*

II. HISTORY OF ENGLAND. By EDITH THOMPSON. 18mo. 2*s.* 6*d.*

"*Freedom from prejudice, simplicity of style, and accuracy of statement, are the characteristics of this little volume. It is a trustworthy text-book*

and likely to be generally serviceable in schools."—PALL MALL GAZETTE. "*Upon the whole, this manual is the best sketch of English history for the use of young people we have yet met with.*"—ATHENÆUM.

III. SCOTLAND. By MARGARET MACARTHUR. 2*s.*

IV. ITALY. By the Rev. WILLIAM HUNT, M.A. 3*s.*

The following will shortly be issued :—

FRANCE. By the Rev. J. R. GREEN, M.A.
GERMANY. By J. SIME, M.A.

Yonge (Charlotte M.)—A PARALLEL HISTORY OF FRANCE AND ENGLAND : consisting of Outlines and Dates. By CHARLOTTE M. YONGE, Author of "The Heir of Redclyffe," "Cameos of English History," &c. &c. Oblong 4to. 3*s.* 6*d.*

This tabular history has been drawn up to supply a want felt by many teachers of some means of making their pupils realize what events in the two countries were contemporary. A skeleton narrative has been constructed of the chief transactions in either country, placing a column between for what affected both alike, by which means it is hoped that young people may be assisted in grasping the mutual relation of events. "*We can imagine few more really advantageous courses of historical study for a young mind than going carefully and steadily through Miss Yonge's excellent little book.*"—EDUCATIONAL TIMES.

CAMEOS FROM ENGLISH HISTORY. From Rollo to Edward II. By the Author of "The Heir of Redclyffe." Extra fcap. 8vo. Second Edition, enlarged. 3*s.* 6*d.*

The endeavour has not been to chronicle facts, but to put together a series of pictures of persons and events, so as to arrest the attention, and give some individuality and distinctness to the recollection, by gathering together details at the most memorable moments. The "Cameos" are intended as a book for young people just beyond the elementary histories of England, and able to enter in some degree into the real spirit of events, and to be struck with characters and scenes presented in some relief. "*Instead of dry details,*" *says the* NONCONFORMIST, "*we have living pictures, faithful, vivid, and striking.*"

A SECOND SERIES OF CAMEOS FROM ENGLISH HISTORY. THE WARS IN FRANCE. Extra fcap. 8vo. pp. xi. 415. 5*s.*

This new volume, closing with the Treaty of Arras, is the history of the struggles of Plantagenet and Valois. It refers, accordingly, to one of the most stirring epochs in the mediæval era, including the battle of Poictiers, the great Schism of the West, the Lollards, Agincourt and Joan of Arc. The authoress reminds her readers that she aims merely at "collecting from the best authorities such details as may present scenes and personages to the eye in some fulness;" her CAMEOS *are a "collection of historical scenes and portraits such as the young might find it difficult to form for themselves without access to a very complete library." "Though mainly intended," says the* JOHN BULL, *"for young readers, they will, if we mistake not, be found very acceptable to those of more mature years, and the life and reality imparted to the dry bones of history cannot fail to be attractive to readers of every age."*

EUROPEAN HISTORY. Narrated in a Series of Historical Selections from the Best Authorities. Edited and arranged by E. M. SEWELL and C. M. YONGE. First Series, 1003—1154. Third Edition. Crown 8vo. 6*s*. Second Series, 1088—1228. Crown 8vo. 6*s*.

When young children have acquired the outlines of History from abridgments and catechisms, and it becomes desirable to give a more enlarged view of the subject, in order to render it really useful and interesting, a difficulty often arises as to the choice of books. Two courses are open, either to take a general and consequently dry history of facts, such as Russel's Modern Europe, or to choose some work treating of a particular period or subject, such as the works of Macaulay and Froude. The former course usually renders history uninteresting; the latter is unsatisfactory because it is not sufficiently comprehensive. To remedy this difficulty, Selections, continuous and chronological, have, in the present volume, been taken from the larger works of Freeman, Milman, Palgrave, and others, which may serve as distinct landmarks of historical reading. "We know of scarcely anything," says the GUARDIAN *of this volume, "which is so likely to rais to a higher level the average standard of English education."*

DIVINITY.

*** For other Works by these Authors, see THEOLOGICAL CATALOGUE.

Abbott (Rev. E. A.)—Works by the Rev. E. A. ABBOTT, M.A., Head Master of the City of London School:—

BIBLE LESSONS. Second Edition. Crown 8vo. 4*s.* 6*d.*

This book is written in the form of dialogues carried on between a teacher and pupil, and its main object is to make the scholar think for himself. The great bulk of the dialogues represents in the spirit, and often in the words, the religious instruction which the author has been in the habit of giving to the Fifth and Sixth Forms of the City of London School. The author has endeavoured to make the dialogues thoroughly unsectarian. "*Wise, suggestive, and really profound initiation into religious thought.*"—GUARDIAN. "*I think nobody could read them without being both the better for them himself, and being also able to see how this difficult duty of imparting a sound religious education may be effected.*"—*From* BISHOP OF ST. DAVID'S SPEECH AT THE EDUCATION CONFERENCE AT ABERGWILLY.

THE GOOD VOICES; A CHILD'S GUIDE TO THE BIBLE. Crown 8vo. cloth extra, gilt edges. 5*s.*

Mr. Abbott is already known as a most successful teacher of religious truth; it is believed that this little book will show that he can make Bible lessons attractive and edifying even to the youngest child. The book is quite devoid of all conventionality and catechetical teaching, and only endeavours in simple language and easy style, by means of short stories and illustrations from every quarter likely to interest a child, to imprint the rudiments of religious knowledge, and inspire young ones with a desire to love and trust God, and to do what is right. The author wishes to imbue them with the feeling that at all times and in all circumstances, whether in town or country, at work or at play, they are living in the presence of a heavenly Father, who is continually speaking to them with the Good Voices of Nature and Revelation. The volume contains upwards of 50 *woodcuts.*

PARABLES FOR CHILDREN. With Three Illustrations. Crown 8vo., gilt edges. 3*s.* 6*d.*

"*Contains a number of really delightfully written and yet simple parables, to be read out to little children as an introduction to Bible reading. They are certainly admirably adapted for the purpose. The style is colloquial and will be understood and appreciated by the youngest child, and the parables themselves are very interesting and well chosen.*"—STANDARD.

Arnold.—A BIBLE-READING FOR SCHOOLS. The GREAT PROPHECY OF ISRAEL'S RESTORATION (Isaiah, Chapters 40—66). Arranged and Edited for Young Learners. By MATTHEW ARNOLD, D.C.L., formerly Professor of Poetry in the University of Oxford, and Fellow of Oriel. Third Edition. 18mo. cloth. 1*s.*

"*Schools for the people,*" *the power of letters—which embraces nothing less than the whole history of the human spirit—has hardly been brought to bear at all. Mr. Arnold, in this little volume, attempts to remedy this defect, by doing for the Bible what has been so abundantly done for Greek and Roman, as well as English authors, viz.—taking* "*some whole, of admirable literary beauty in style and treatment, of manageable length, within defined limits; and presenting this to the learner in an intelligible shape, adding such explanations and helps as may enable him to grasp it as a connected and complete work.*" *Mr. Arnold thinks it clear that nothing could more exactly suit the purpose than what the Old Testament gives us in the last twenty-seven chapters of the Book of Isaiah, beginning* "*Comfort ye,*" *&c. He has endeavoured to present a perfectly correct text, maintaining at the same time the unparalleled balance and rhythm of the Authorised Version. In an Introductory note, Mr. Arnold briefly sums up the events of Jewish history to the starting-point of the chapters chosen; and, in the copious notes appended, every assistance is given to the complete understanding of the text. There is nothing in the book to hinder the adherent of any school of interpretation or of religious belief from using it, and from putting it into the hands of children. The Preface contains much that is interesting and valuable on the relation of* "*letters*" *to education, of the principles that ought to guide the makers of a new version of the Bible, and other important matters. Altogether, it is believed the volume will be found to form a text-book of the greatest value to schools of all classes.* "*Mr. Arnold has done the greatest possible service to the public. We never read any translation of Isaiah which interfered so little with the musical rhythm and associations of our English Bible translation, while doing so much to display the missing links in the connection of the parts.*"—SPECTATOR.

Cheyne (T. K.)—THE BOOK OF ISAIAH CHRONOLOGICALLY ARRANGED. An Amended Version, with Historical and Critical Introductions and Explanatory Notes. By T. K. CHEYNE, M.A., Fellow of Balliol College, Oxford. Crown 8vo. 7*s.* 6*d.*

The object of this edition is simply to restore the probable meaning of Isaiah, so far as this can be expressed in modern English. The basis of the version is the revised translation of 1611, *but no scruple has been felt in introducing alterations, wherever the true sense of the prophecies appeared to require it.* "*A piece of scholarly work, very carefully and considerately done.*"—WESTMINSTER REVIEW.

Golden Treasury Psalter.—Students' Edition. Being an Edition of "The Psalms Chronologically Arranged, by Four Friends," with briefer Notes. 18mo. 3*s.* 6*d.*

In making this abridgment of "*The Psalms Chronologically Arranged,*" *the editors have endeavoured to meet the requirements of readers of a different class from those for whom the larger edition was intended. Some who found the large book useful for private reading, have asked for an edition of a smaller size and at a lower price, for family use, while at the same time some Teachers in Public Schools have suggested that it would be convenient for them to have a simpler book, which they could put into the hands of younger pupils.* "*It is a gem,*" *says the* NONCONFORMIST.

Hardwick.—A HISTORY OF THE CHRISTIAN CHURCH. Middle Age. From Gregory the Great to the Excommunication of Luther. Edited by WILLIAM STUBBS, M.A., Regius Professor of Modern History in the University of Oxford. With Four Maps constructed for this work by A. KEITH JOHNSTON. Third Edition. Crown 8vo. 10*s.* 6*d.*

Although the ground-plan of this treatise coincides in many points with that of the colossal work of Schröckh, yet in arranging the materials a very different course has frequently been pursued. With regard to his opinions the late author avowed distinctly that he construed history with the specific prepossessions of an Englishman and a member of the English Church. The reader is constantly referred to the authorities, both original and critical, on which the statements are founded. For this edition Professor Stubbs has carefully revised both text and notes, making such corrections of facts, dates, and the like as the results of recent research warrant. The doctrinal, historical, and generally speculative views of the late author have been preserved intact. "*As a manual for*

Hardwick—*continued.*

the student of ecclesiastical history in the Middle Ages, we know no English work which can be compared to Mr. Hardwick's book."—GUARDIAN.

A HISTORY OF THE CHRISTIAN CHURCH DURING THE REFORMATION. By ARCHDEACON HARDWICK. Third Edition. Edited by Professor STUBBS. Crown 8vo. 10*s.* 6*d.*

This volume is intended as a sequel and companion to the "History of the Christian Church during the Middle Age." The author's earnest wish has been to give the reader a trustworthy version of those stirring incidents which mark the Reformation period, without relinquishing his former claim to characterise peculiar systems, persons, and events according to the shades and colours they assume, when contemplated from an English point of view and by a member of the Church of England.

Maclear.—Works by the Rev. G. F. MACLEAR, D.D., Head Master of King's College School.

A CLASS-BOOK OF OLD TESTAMENT HISTORY. Seventh Edition, with Four Maps. 18mo. cloth. 4*s.* 6*d.*

This volume forms a Class-book of Old Testament History from the earliest times to those of Ezra and Nehemiah. In its preparation the most recent authorities have been consulted, and wherever it has appeared useful, Notes have been subjoined illustrative of the Text, and, for the sake of more advanced students, references added to larger works. The Index has been so arranged as to form a concise dictionary of the persons and places mentioned in the course of the narrative; while the Maps, which have been prepared with considerable care at Stanford's Geographical Establishment, will, it is hoped, materially add to the value and usefulness of the Book. "A careful and elaborate though brief compendium of all that modern research has done for the illustration of the Old Testament. We know of no work which contains so much important information in so small a compass.' —BRITISH QUARTERLY REVIEW.

A CLASS-BOOK OF NEW TESTAMENT HISTORY, including the Connexion of the Old and New Testament. With Four Maps. Fourth Edition. 18mo. cloth. 5*s.* 6*d.*

A sequel to the author's Class-book of Old Testament History, continuing the narrative from the point at which it there ends, and carrying it on to the close of St. Paul's second imprisonment at Rome. In its preparation,

Maclear—*continued.*

as in that of the former volume, the most recent and trustworthy authorities have been consulted, notes subjoined, and references to larger works added. It is thus hoped that it may prove at once an useful class-book and a convenient companion to the study of the Greek Testament. "A singularly clear and orderly arrangement of the Sacred Story. His work is solidly and completely done."—ATHENÆUM.

A SHILLING BOOK OF OLD TESTAMENT HISTORY, for National and Elementary Schools. With Map. 18mo. cloth. New Edition.

A SHILLING BOOK OF NEW TESTAMENT HISTORY, for National and Elementary Schools. With Map. 18mo. cloth. New Edition.

These works have been carefully abridged from the author's larger manuals.

CLASS-BOOK OF THE CATECHISM OF THE CHURCH OF ENGLAND. Second Edition. 18mo. cloth. 2*s.* 6*d.*

This may be regarded as a sequel to the Class-books of Old and New Testament History. Like them, it is furnished with notes and references to larger works, and it is hoped that it may be found, especially in the higher forms of our Public Schools, to supply a suitable manual of instruction in the chief doctrines of the English Church, and a useful help in the preparation of candidates for Confirmation. "It is indeed the work of a scholar and divine, and as such, though extremely simple, it is also extremely instructive. There are few clergymen who would not find it useful in preparing candidates for Confirmation; and there are not a few who would find it useful to themselves as well."—LITERARY CHURCHMAN.

A FIRST CLASS-BOOK OF THE CATECHISM OF THE CHURCH OF ENGLAND, with Scripture Proofs, for Junior Classes and Schools. 18mo. 6*d.* New Edition.

THE ORDER OF CONFIRMATION. A Sequel to the Class Book of the Catechism. For the use of Candidates for Confirmation. With Prayers and Collects. 18mo. 3*d.* New Edition.

Maurice.—THE LORD'S PRAYER, THE CREED, AND THE COMMANDMENTS. A Manual for Parents and Schoolmasters. To which is added the Order of the Scriptures. By the Rev. F. DENISON MAURICE, M.A. Professor of Moral Philosophy in the University of Cambridge. 18mo. cloth limp. 1*s.*

Procter.—A HISTORY OF THE BOOK OF COMMON PRAYER, with a Rationale of its Offices. By FRANCIS PROCTER, M.A. Tenth Edition, revised and enlarged. Crown 8vo. 10*s.* 6*d.*

In the course of the last twenty years the whole question of Liturgical knowledge has been reopened with great learning and accurate research; and it is mainly with the view of epitomizing extensive publications, and correcting the errors and misconceptions which had obtained currency, that the present volume has been put together. "*We admire the author's diligence, and bear willing testimony to the extent and accuracy of his reading. The origin of every part of the Prayer Book has been diligently investigated, and there are few questions of facts connected with it which are not either sufficiently explained, or so referred to that persons interested may work out the truth for themselves.*"—ATHENÆUM.

Procter and Maclear.—AN ELEMENTARY INTRODUCTION TO THE BOOK OF COMMON PRAYER. Re-arranged and supplemented by an Explanation of the Morning and Evening Prayer and the Litany. By the Rev. F. PROCTER and the Rev. G. F. MACLEAR. Fourth Edition. 18mo. 2*s.* 6*d.*

As in the other Class-books of the series, Notes have also been subjoined, and references given to larger works, and it is hoped that the volume will be found adapted for use in the higher forms of our Public Schools, and a suitable manual for those preparing for the Oxford and Cambridge local examinations. This New Edition has been considerably altered, and several important additions have been made. Besides a re-arrangement of the work generally, the Historical Portion has been supplemented by an Explanation of the Morning and Evening Prayer and of the Litany.

Psalms of David Chronologically Arranged. By Four Friends. An Amended Version, with Historical Introduction and Explanatory Notes. Second and Cheaper Edition, with Additions and Corrections. Crown 8vo. 8*s.* 6*d.*

To restore the Psalter as far as possible to the order in which the Psalms were written,—to give the division of each Psalm into strophes, of each strophe into the lines which composed it,—to amend the errors of translation, is the object of the present Edition. Professor Ewald's works, especially that on the Psalms, have been extensively consulted. This book has been used with satisfaction by masters for private work in higher classes in

schools. The SPECTATOR *calls this "one of the most instructive and valuable books that has been published for many years."*

Ramsay.—THE CATECHISER'S MANUAL; or, the Church Catechism Illustrated and Explained, for the use of Clergymen, Schoolmasters, and Teachers. By the Rev. ARTHUR RAMSAY, M.A. Second Edition. 18mo. 1*s.* 6*d.*

A clear explanation of the Catechism, by way of Question and Answer. "This is by far the best Manual on the Catechism we have met with." —ENGLISH JOURNAL OF EDUCATION.

Simpson.—AN EPITOME OF THE HISTORY OF THE CHRISTIAN CHURCH. By WILLIAM SIMPSON, M.A. Fifth Edition. Fcap. 8vo. 3*s.* 6*d.*

A compendious summary of Church History.

Swainson.—A HANDBOOK to BUTLER'S ANALOGY. By C. A. SWAINSON, D.D., Canon of Chichester. Crown 8vo. 1*s.* 6*d.*

This manual is designed to serve as a handbook or road-book to the Student in reading the Analogy, to give the Student a sketch or outline map of the country on which he is entering, and to point out to him matters of interest as he passes along.

Trench.—SYNONYMS OF THE NEW TESTAMENT. By R. CHEVENIX TRENCH, D.D., Archbishop of Dublin. New Edition, enlarged. 8vo. cloth. 12*s.*

The study of synonyms in any language is valuable as a discipline for training the mind to close and accurate habits of thought: more especially is this the case in Greek—"a language spoken by a people of the finest and subtlest intellect; who saw distinctions where others saw none, who divided out to different words what others often were content to huddle confusedly under a common term. This work is recognised as a valuable companion to every student of the New Testament in the original. This, the Seventh Edition, has been carefully revised, and a considerable number of new synonyms added. Appended is an Index to the Synonyms, and an Index to many other words alluded to or explained throughout the work. "He is," the ATHENÆUM *says, "a guide in this department of knowledge to whom his readers may intrust themselves with confidence. His sober judgment and sound sense are barriers against the misleading influence of arbitrary hypotheses."*

Westcott.—Works by BROOKE FOSS WESTCOTT, B.D., Canon of Peterborough.

A GENERAL SURVEY OF THE HISTORY OF THE CANON OF THE NEW TESTAMENT DURING THE FIRST FOUR CENTURIES. Third Edition, revised. Crown 8vo. 10*s.* 6*d.*

The author has endeavoured to connect the history of the New Testament Canon with the growth and consolidation of the Church, and to point out the relation existing between the amount of evidence for the authenticity of its component parts, and the whole mass of Christian literature. Such a method of inquiry will convey both the truest notion of the connection of the written Word with the living Body of Christ, and the surest conviction of its divine authority. Of this work the SATURDAY REVIEW *writes: "Theological students, and not they only, but the general public, owe a deep debt of gratitude to Mr. Westcott for bringing this subject fairly before them in this candid and comprehensive essay. . . . . As a theological work it is at once perfectly fair and impartial, and imbued with a thoroughly religious spirit; and as a manual it exhibits, in a lucid form and in a narrow compass, the results of extensive research and accurate thought. We cordially recommend it."*

INTRODUCTION TO THE STUDY OF THE FOUR GOSPELS. Fourth Edition. Crown 8vo. 10*s.* 6*d.*

The author's chief object in this work is to show that there is a true mean between the idea of a formal harmonization of the Gospels and the abandonment of their absolute truth. The treatise consists of eight chapters:—I. The Preparation for the Gospel. II. The Jewish Doctrine of the Messiah. III. The Origin of the Gospels. IV. The Characteristics of the Gospels. V. The Gospel of St. John. VI. & VII. The Differences in detail and of arrangement in the Synoptic Evangelists. VIII. The Difficulties of the Gospels. "To a learning and accuracy which commands respect and confidence, he unites what are not always to be found in union with these qualities, the no less valuable faculties of lucid arrangement and graceful and facile expression."—LONDON QUARTERLY REVIEW.

A GENERAL VIEW OF THE HISTORY OF THE ENGLISH BIBLE. Crown 8vo. 10*s.* 6*d.* Second Edition.

Westcott—*continued.*

"*The first trustworthy account we have had of that unique and marvellous monument of the piety of our ancestors.*"—DAILY NEWS.

"*A brief, scholarly, and, to a great extent, an original contribution to theological literature. He is the first to offer any considerable contributions to what he calls their internal history, which deals with their relation to other texts, with their filiation one on another, and with the principles by which they have been successively modified.*"—PALL MALL GAZETTE.

THE BIBLE IN THE CHURCH. A Popular Account of the Collection and Reception of the Holy Scriptures in the Christian Churches. New Edition. 18mo. cloth. 4*s.* 6*d.*

The present book is an attempt to answer a request, which has been made from time to time, to place in a simple form, for the use of general readers, the substance of the author's "History of the Canon of the New Testament." An elaborate and comprehensive Introduction is followed by chapters on the Bible of the Apostolic Age; on the Growth of the New Testament; the Apostolic Fathers; the Age of the Apologists; the First Christian Bible; the Bible Proscribed and Restored; the Age of Jerome and Augustine; the Bible of the Middle Ages in the West and in the East, and in the Sixteenth Century. Two Appendices on the History of the Old Testament Canon before the Christian Era, and on the Contents of the most ancient MSS. of the Christian Bible, complete the volume. "We would recommend every one who loves and studies the Bible to read and ponder this exquisite little book. Mr. Westcott's account of the 'Canon' is true history *in its highest sense.*"—LITERARY CHURCHMAN.

THE GOSPEL OF THE RESURRECTION. Thoughts on its Relation to Reason and History. New Edition. Fcap. 8vo. 4*s.* 6*d.*

This Essay is an endeavour to consider some of the elementary truths of Christianity as a miraculous Revelation, from the side of History and Reason. If the arguments which are here adduced are valid, they will go far to prove that the Resurrection, with all that it includes, is the key to the history of man, and the complement of reason.

Wilson.—THE BIBLE STUDENT'S GUIDE to the more Correct Understanding of the English translation of the Old Testament, by reference to the Original Hebrew. By WILLIAM WILSON, D.D., Canon of Winchester, late Fellow of Queen's College, Oxford. Second Edition, carefully Revised. 4to. cloth. 25*s.*

This work is the result of almost incredible labour bestowed on it during many years. Its object is to enable the readers of the Old Testament Scriptures to penetrate into the real meaning of the sacred writers. All the English words used in the Authorized Version are alphabetically arranged, and beneath them are given the Hebrew equivalents, with a careful explanation of the peculiar signification and construction of each term. The knowledge the Hebrew language is not absolutely necessary to the profitable use of the work. Devout and accurate students of the Bible, entirely unacquainted with Hebrew, may derive great advantage from frequent reference to it. It is especially adapted for the use of the clergy. "For all earnest students of the Old Testament Scriptures it is a most valuable Manual. Its arrangement is so simple that those who possess only their mother-tongue, if they will take a little pains, may employ it with great profit."—NONCONFORMIST.

Yonge (Charlotte M.)—SCRIPTURE READINGS FOR SCHOOLS AND FAMILIES. By CHARLOTTE M. YONGE, Author of "The Heir of Redclyffe." Globe 8vo. 1*s.* 6*d.* With Comments. Second Edition. 3*s.* 6*d.*

A SECOND SERIES. From JOSHUA to SOLOMON. Extra fcap. 1*s.* 6*d.* With Comments, 3*s.* 6*d.*

Actual need has led the author to endeavour to prepare a reading book convenient for study with children, containing the very words of the Bible, with only a few expedient omissions, and arranged in Lessons of such length as by experience she has found to suit with children's ordinary power of accurate attentive interest. The verse form has been retained, because of its convenience for children reading in class, and as more resembling their Bibles; but the poetical portions have been given in their lines. When Psalms or portions from the Prophets illustrate or fall in with the narrative they are given in their chronological sequence. The Scripture portion, with a very few notes explanatory of mere words, is bound up apart, to be used by children, while the same is also supplied with a brief comment, the purpose of which is either to assist the teacher in explaining the lesson, or to be used by more advanced young people to whom it may not be possible to give access to the authorities whence it has been taken. Professor Huxley, at a meeting of the London School Board, particularly mentioned the selection made by Miss Yonge as an example of how selections might be made from the Bible for School Reading. *See* TIMES, *March* 30, 1871.

Catalogue of Works on Education, Physical and Mental, General and Special.

Arnold.—A FRENCH ETON: OR, MIDDLE-CLASS EDUCATION AND THE STATE. Fcap. 8vo. cloth. *2s. 6d.*

This interesting little volume is the result of a visit to France in 1859 *by Mr. Arnold, authorized by the Royal Commissioners, who were then inquiring into the state of popular education in England, to seek, in their name, information respecting the French Primary Schools. "A very interesting dissertation on the system of secondary instruction in France, and on the advisability of copying the system in England."*—SATURDAY REVIEW.

HIGHER SCHOOLS AND UNIVERSITIES OF GERMANY. Crown 8vo. *6s.*

Jex-Blake.—A VISIT TO SOME AMERICAN SCHOOLS AND COLLEGES. By SOPHIA JEX-BLAKE. Crown 8vo. cloth. *6s.*

"In the following pages I have endeavoured to give a simple and accurate account of what I saw during a series of visits to some of the Schools and Colleges in the United States. . . . I wish simply to give other teachers an opportunity of seeing through my eyes what they cannot perhaps see for themselves, and to this end I have recorded just such particulars as I should myself care to know."—AUTHOR'S PREFACE. *"Miss Blake gives a living picture of the Schools and Colleges themselves in which that education is carried on."*—PALL MALL GAZETTE.

Maclaren.—TRAINING, IN THEORY AND PRACTICE. By ARCHIBALD MACLAREN, the Gymnasium, Oxford. 8vo. Handsomely bound in cloth, *7s. 6d.*

The ordinary agents of health are Exercise, Diet, Sleep, Air, Bathing, and Clothing. In this work the author examines each of these agents

in detail, and from two different points of view. First, as to the manner in which it is, or should be, administered under ordinary circumstances: and secondly, in what manner and to what extent this mode of administration is, or should be, altered for purposes of training; the object of "training," according to the author, being "to put the body, with extreme and exceptional care, under the influence of all the agents which promote its health and strength, in order to enable it to meet extreme and exceptional demands upon its energies." Appended are various diagrams and tables relating to boat-racing, and tables connected with diet and training. "The philosophy of human health has seldom received so apt an exposition."—GLOBE. *"After all the nonsense that has been written about training, it is a comfort to get hold of a thoroughly sensible book at last."*—JOHN BULL.

Quain (Richard, F.R.S.)—ON SOME DEFECTS IN GENERAL EDUCATION. By RICHARD QUAIN, F.R.S. Crown 8vo. 3*s.* 6*d.*

Having been charged by the College of Surgeons with the delivery of the Hunterian Oration for 1869, *the author has availed himself of the occasion to bring under notice some defects in the general education of the country, which, in his opinion, affect injuriously all classes of the people, and not least the members of his own profession. The earlier pages of the address contain a short notice of the genius and labours of John Hunter, but the subject of Education will be found to occupy the larger part. "An interesting addition to educational literature."*—GUARDIAN.

Selkirk.—GUIDE TO THE CRICKET-GROUND. By G. H. SELKIRK. With Woodcuts. Extra fcap. 8vo. 3*s.* 6*d.*

The introductory chapter of this little work contains a history of the National Game, and is followed by a chapter giving Definitions of Terms. Then follow ample directions to young cricketers as to the proper style in which to play, information being given on every detail connected with the game. The book contains a number of useful illustrations, including a specimen scoring-sheet. "We can heartily recommend to all cricketers, old and young, this excellent Guide to the Cricket-ground."—SPORTING LIFE.

Thring.—EDUCATION AND SCHOOL. By the Rev. EDWARD THRING, M.A., Head Master of Uppingham School. Second Edition. Crown 8vo. cloth. 5*s.* 6*d.*

"*An invaluable book on a subject of the highest importance.*"—ENGLISH INDEPENDENT.

Todhunter.—THE CONFLICT OF STUDIES, and other Essays on Subjects connected with Education. By ISAAC TODHUNTER, M.A. F.R.S., late Fellow and Principal Mathematical Lecturer of St. John's College, Cambridge. 8vo. 10*s.* 6*d.*

CONTENTS:—*The Conflict of Studies—Competitive Examinations—Private Study of Mathematics—Academical Reform—Elementary Geometry—The Mathematical Tripos.*

Vandervell and Witham.—A SYSTEM OF FIGURE-SKATING: Being the Theory and Practice of the Art as developed in England, with a Glance at its Origin and History. By H. E. VANDERVELL and T. M. WITHAM; Members of the London Skating Club. Extra fcap. 8vo. 6*s.*

"*The authors are evidently well qualified for the task they have undertaken; and although they have selected a title for their work which might possibly deter a diffident learner from looking into its pages, they have nevertheless begun at the beginning, and without assuming any knowledge on the part of the reader, they have clearly pointed out, by a series of instructive diagrams, the footprints of the skater, as developed in lines and figures, from the lowest to the highest stage of difficulties.*"—THE FIELD. "*The volume may be accepted as a manual for the use of all skaters.*"—BELL'S LIFE.

Wolseley (Col. Sir Garnet, C.B.)—THE SOLDIER'S POCKET BOOK. By COLONEL SIR GARNET WOLSELEY, C.B. New Edition, enlarged. 4*s.* 6*d.*

This book is indispensable to every soldier, whether of the Regular Army or of the Volunteers, who seeks to be an intelligent defender of his country. Full instructions are given on the widest and minutest matters, and the

book is written in a clear, lively style, that at once arrests attention and conveys the desired knowledge. The New Edition contains all the most recent Regulations for the Army and Volunteers; also, for the first time, the Uses and Management of Railways in the operations of War are fully discussed. The TIMES *says, "Everybody feels that it is just what he wanted;" the* DAILY TELEGRAPH, *"Every soldier who wishes to understand his profession ought to have it;" and the* VOLUNTEER SERVICE GAZETTE *strongly recommends Volunteers to peruse it diligently.*

Youmans.—MODERN CULTURE: its True Aims and Requirements. A Series of Addresses and Arguments on the Claims of Scientific Education. Edited by EDWARD L. YOUMANS, M.D. Crown 8vo. 8*s.* 6*d.*

CONTENTS.—*Professor Tyndall "On the Study of Physics;" Dr. Daubeny "On the Study of Chemistry;" Professor Henfrey "On the Study of Botany;" Professor Huxley "On the Study of Zoology;" Dr. J. Paget "On the Study of Physiology;" Dr. Whewell "On the Educational History of Science;" Dr. Faraday "On the Education of the Judgment;" Dr. Hodgson "On the Study of Economic Science;" Mr. Herbert Spencer "On Political Education;" Professor Masson "On College Education and Self Education;" Dr. Youmans "On the Scientific Study of Human Nature." An Appendix contains extracts from distinguished authors, and from the Scientific Evidence given before the Public Schools Commission.*

LONDON: R. CLAY, SONS, AND TAYLOR, PRINTERS.

TR902
H55
1874